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9. ABSTRACT

The KASS team projects a two to three-fold increase in product marketings and an approximate three-fold increase in total volume of input supplies required by 1985. NACF should not attempt to expand proportional to the need for input and product market services over the next 1 1/2 decades. Rather the target should be to retain its present non-government intrusted product market share (about 11%) and to move from 80% of the modern input supply market to less than half in 1985. Private sector competition should be encouraged. Projections in Chapter IV indicate that NACF Primary cooperatives in the aggregate are capable of almost doubling their product marketing and input supply volume with existing resources and personnel.

The NACF is currently seeking funds to increase its role in programming and financing major capital investments in agricultural production and marketing. This represents essentially a new role for the organization. This kind of activity should basically be left to the private sector and the AFDC. In any case NACF should not undertake such activity without a very clear assessment of the organization's capacity to implement the program and at the same time improve its capacity to provide credit, farm supply, and marketing services to agriculture.

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KOREAN AGRICULTURAL SECTOR STUDY



Special Report No. 1

THE NATIONAL AGRICULTURAL COOPERATIVE FEDERATION: AN APPRAISAL

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THE NATIONAL AGRICULTURAL COOPERATIVE
FEDERATION: AN APPRAISAL

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FOREWORD

This publication is one of a series of Korean Agricultural Sector Study Special Reports. Through the cooperation of the Republic of Korea, Michigan State University and USAID, an agricultural sector study, entitled Korean Agricultural Sector Analysis and Recommended Development Strategies, 1971-1985 was completed between September 1971 and July 1972. Concurrent with and contributing to the sector study the rudimentary components of a computerized simulation model were developed. This work continues with the objective of developing and institutionalizing a fully operational agriculture sector simulation model as a tool for use by Korean decision makers in policy formulation and program development.

The KASS special reports are the result of the work of a number of joint Korean and American task forces established to collect and analyze data and develop working papers on a variety of specific topics for background and input and follow up to the sector analysis efforts. The reports are joint publications of the Agricultural Economics Research Institute, Ministry of Agriculture and Forestry, Republic of Korea and the Department of Agricultural Economics, Michigan State University, East Lansing, Michigan.

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SUMMARY OF MAJOR RECOMMENDATIONS

A. Internal Operating Patterns

1. The NACF needs to adopt a philosophy that orients it toward responding to the real needs of farmers.
2. The degree of top down direction should be reduced and business procedures that assign authority to management at all levels, holds them responsible for performance and provides rewards commensurate with performance should be adopted.
3. A merit system of rewards for personnel should be adopted at all levels.

B. Functional Linkages and Organization

1. The organization, at the national level, should be divided into four operating divisions: Finance and Credit, Insurance, Input Services, and Product Marketing. These operating divisions should be supplemented by a number of appropriate staff departments to include such functions as research, general administration, planning and program development, and membership and public relations.
2. Full and adequate financial records that separate the results of each operating division should be kept. An outside professional business audit should be completed each year. Financial records should be subject to governmental inspection.
3. The finance and credit and insurance operations should ultimately become separate institutions from the NACF.
4. At the local level separation of functions should be primarily between finance and credit (and insurance) on the one hand and product marketing on the other.
5. Management for each of these two sets of operations should be chosen on the basis of their competence in performing the kinds of functions in

each case. The skills required in managing farm purchasing and marketing operations vary from area to area depending on farming conditions. A manager in a fruit producing area, for example, should be chosen on the basis of general managerial competence and technical competence related to fruit production. Graduates from colleges of agriculture should provide a source for this mixture of talent. Emphasis should be placed on developing specialized cooperatives for all major commodities including grain to provide the institutional basis for this kind of arrangement.

6. The finance and credit function is performed with similar operating procedures and purposes throughout the country, hence the existing management structure and vertical linkages are more appropriate. Provincial offices should be concerned primarily with this area and provide a linkage from the local to the national level. A manager and staff skilled in agricultural lending should be employed.
7. The presidents of the Gun and Primary cooperatives should, with consistency throughout the country, be able to function in their role as community leaders and general proponents of national values and cooperative philosophy. The burden of these roles, then, would not have to be undertaken by managers of farm purchasing and marketing cooperatives. They could devote all of their energy to serving farmers and, in this way contribute to improving agriculture, currently an important national objective.
8. The NACF guidance because of its close relationship to the finance and credit operations and its consistency with the role of the presidents of Gun and Primary cooperatives should be attached to the banking division at all levels.
9. The vice president of each division at the national level should be chosen with particular attention to his capacity for performing the functions of his division.
10. Programs to strengthen the local cooperative system should be continued, but most important,

local managers should be given greater independence and be held accountable for their performance. A program to make local farm supply and marketing cooperative democratically run farmers' organizations and more responsive to farmers' needs, should be started and implemented as feasible.

11. The NACF, particularly in the marketing and farm supply divisions, should view its role as that of serving the needs of local cooperatives and not the other way around.
12. The KASS team projects a two to three-fold increase in product marketings and an approximate three-fold increase in total volume of input supplies required by 1985. NACF should not attempt to expand proportional to the need for input and product market services over the next 1½ decades. Rather the target should be to retain its present non-government intrusted product market share (about 11%) and to move from 80% of the modern input supply market to less than half in 1985. Private sector competition should be encouraged. Projections in Chapter IV indicate that NACF Primary cooperatives in the aggregate are capable of almost doubling their product marketing and input supply volume with existing resources and personnel.

C. Relations with Government

1. The NACF should cooperate with government, but should not be required to do so where this will reduce its effectiveness as a commercial organization serving agriculture. Programs and activities that alienate farmers (and there have been some in the past) or that draw upon the organization's resources without adequate compensation have this effect. Policies by both the government and NACF should be developed and executed in such a way as to promote additional private sector competition in the services provided to the agricultural sector. Both the organization and the government should recognize that short run political expediency, if it constrains Korean agriculture from meeting the great demands placed upon it by the non-agricultural sector over the next 15 years, may make long run political survival difficult.

2. If the above suggested organization and accountability is established, close overall supervision of NACF by MAF would neither be needed nor desirable. Strict and clear guidelines should be established by MAF for those government programs carried out by NACF. MAF would need only to monitor NACF through its financial records, periodic review of its operating policies, and for adherence to MAF program operational guidelines. This would be done through the suggested MAF reorganization as recommended by Hathaway and Rossmiller as follows:
 - a. The banking division would be monitored by an Agricultural Credit Bureau under the Assistant Vice Minister for Agricultural Production.
 - b. The farm purchases division would be monitored by an Agricultural Inputs Bureau under the Assistant Vice Minister for Agricultural Production.
 - c. The marketing division would be monitored through a Marketing Bureau under an Assistant Vice Minister for Food Management and Marketing.
 - d. An annual review of NACF policy and programs would be held by the Minister of MAF.
3. Close liaison should be established between NACF and MAF in policy and program planning affecting, or to be executed by NACF and efforts should be made to develop and implement policies consistent with the needs of agriculture. The programs related to price stabilization for agricultural products and subsidized credit are particularly in need of review at the present time.
4. The NACF is currently seeking funds to increase its role in programming and financing major capital investments in agricultural production and marketing. This represents essentially a new role for the organization. This kind of activity should basically be left to the private sector and the AFDC. In any case NACF should not undertake such activity without a very clear assessment of the organization's capacity to implement the program and at the same time improve its capacity to provide credit, farm supply, and marketing services to agriculture.

CHAPTER I

THE ORGANIZATION

Introduction

The National Agricultural Cooperative Federation (NACF) handles a large number of functions and operates in close liaison with government. Its history stems from the period of Japanese occupation. Under Japanese control a national cooperative federation was established to jointly handle banking and business activities for agriculture. From the end of Japanese occupation until 1961 these two functions were separated into a National Agricultural Banking system and the National Agricultural Cooperative Federation. Under these arrangements, co-operatives had difficulty competing for funds and in 1961 these two functions were again combined into the present organization of NACF.

The NACF is organized under a comprehensive law that authorizes it to engage in a wide range of activities related to credit, farm input supply, product marketing, research, farm guidance, and a number of other activities. The banking and credit operations include both agricultural and non-agricultural deposits and loans, for both individuals and institutions, mutual savings, credit supervision and farm management guidance, and linkages between credit and the farm supply and product marketing activities of the organization. The farm supply activities provide fertilizer, farm chemicals, seed, feed, farm machinery, tools and equipment, breeding livestock and other production inputs. The product marketing activities include general marketing of members' agricultural products as well as operation of the marketing of government products purchased and sold for price stabilization purposes. In addition, NACF supplies various products to Korean and UN armed forces, handles sales and promotion of farm handiwork products such as straw mats, rush products, bamboo products and other

items, and operates a number of consumer retail outlets in rural villages. NACF also imports and exports agricultural products and inputs. A mutual insurance program provides fire and life insurance protection for policy holding members. Other activities include farm management guidance, education and training programs, particularly through the Agricultural Cooperative College, publication of an agricultural newsletter, a magazine, and other informational materials, support of farm handicraft and sideline business, operation of a pilot dairy farm, agricultural research on marketing, outlook, farm management, and the rural economy, and contact with international agricultural cooperative associations and cooperatives in other countries.

Procedures are specified for developing, organizing and operating Gun cooperatives, Special cooperatives, and Ri-Dong cooperatives. The law provides usual powers of supervision for all cooperatives, including the NACF by the Minister for Agriculture and Forestry, including the power to charter and disband cooperatives. The initial law, passed in 1961, provided for democratic organization in the cooperative system.¹ An interim law in early 1962 suspended provisions for the election of presidents of the Gun, Special and Ri-Dong cooperatives by the members in favor of appointed leadership and/or reservation of the right to approve the elected village leaders.

Currently the president of NACF is appointed by the president of Korea for a three-year term. The president of NACF, in turn, appoints the presidents of the Gun and Special cooperatives and the presidents of Primary cooperatives are elected but must have approval of the president of NACF. The organization thus is characterized by complete dominance from the top down. This starts in the office of the president of Korea and carries all the way to the rural village cooperatives.

¹ For a detailed accounting of the system of control, provided in the law. See A. Larsen and H. Halbert, A Study of Cooperatives in Korea -- NACF, March 1966, Seoul, Korea.

National Organization

The National Agricultural Cooperative Federation is divided into 20 departments. In addition, it maintains nine provincial branch offices (Appendix Table 1). The National Organization also maintains direct control of the system of cooperatives throughout the country. This includes approximately 139 Gun cooperatives and over 5,000 Primary cooperatives with a total membership of over 2.0 million farmers. There are 148 Special cooperatives, with a membership of over 54,000. Of these, 53 are horticulture, 95 are livestock and milk cooperatives.

In addition to appointing the president of NACF, the government maintains a series of direct controls over policy and operations. The most fundamental of these is that the NACF budget must be approved annually by the NACF planning board and by the Minister of Agriculture.¹ Each year the budget includes a large amount of government funds and specifies the conditions for a range of government intrusted activities that must be performed by NACF, in its marketing, farm supply, and banking business. In 1970, 74.2 percent of the purchase of farm supplies represented government intrusted business. Government subsidies were paid on much of the remaining 25.8 percent. In marketing, all transactions in the military purchase department, and approximately 70 percent of the volume in the marketing department and about 60 percent of imports handled by NACF were government intrusted. Exports are entirely NACF business.

The meaning of government intrusted business is that prices, margins, the commissions received for handling the commodity, and the volume to be purchased or distributed is determined by the government. The NACF acts as an agent. In 1970 the government also provided 48.5 billion won, or approximately 26 percent of the total loanable funds available for credit. Since only 37% of the loanable funds were granted in agriculture

¹ The Minister of Agriculture is a member of the planning board, but also has power to alter details of the budget after overall approval by the planning board.

and forestry, the government funds accounted for about 71% of this total. These funds are controlled. Interest rates and the purposes for which loans may be made are specified. Also individual farmers must receive clearance from local government to become eligible for a loan.

In total the NACF operates in close linkage with the government in all major sections of its commercial activities. In addition, it provides a number of additional services (including research and outlook) which are designated by government. It engages in a wide range of other activities on its own initiative, such as a mutual insurance program, establishing consumer retail outlets for household goods, and a number of minor activities such as providing barber services, wedding parlors in rural communities, and operation of the Rural Handicraft Promotion Center in Seoul.

Most of the business activities are carried out through the county cooperatives. However, marketing centers have been established in five cities which provide marketing facilities such as warehouses and auction sites through which County, Special, and Primary cooperatives may sell their products.

County Cooperatives

In 1970, there were 139 county cooperatives that represented a major contact unit for farmers. These organizations, as well as their member Primary cooperatives are multipurpose organizations performing a major share of services needed by farmers in particular areas. These units are particularly important in carrying out the credit and insurance functions. Table 1 indicates the gross profit, direct expenses, and operating profit of each of five phases of business activity. The credit and deposit activities as indicated by gross and operating profit are a major part of the business of the county cooperatives.

Table 1.--Business Activities of NACF County Cooperatives, Korea, 1970

Item	: Total	: Credit	: Purchasing:	Marketing:	Processing Utilization:	Insurance
(million won)						
Gross profit . .	: 26,207	16,139	3,260	453	967	5,388
Direct expense . . .	: <u>18,207</u>	<u>11,316</u>	<u>1,668</u>	<u>217</u>	<u>695</u>	<u>5,000</u>
Operating profit. . . .	: 7,311	4,823	1,592			
Other expense in- cluding man- agement ...	: 6,963					
Guidance expense . . .	: 344					
Total expense . . .	: 7,307					
Net profit	: 4					

Special Cooperatives

This type of cooperative is a functional organization which deals with specialized and commercial farmers. The two major types of special cooperatives operating in 1970 were horticultural and livestock cooperatives marketing produce for farmers through Marketing Centers or commercial channels. These organizations are not involved in deposit or credit business except as they may sell some farm supplies to their members on accounts. The horticultural organizations market or process fruits and vegetables and purchase some items such as fertilizer and chemicals for their members. Table 2 indicates some selected data available regarding these cooperatives. Processing and purchasing represent 7% and 22%, respectively, of the overall volume of business. While the combined Profit and Loss situation for the 53 organizations was a loss, only 13 cooperatives actually showed a loss. This suggests that many of this group are performing satisfactorily and are providing some profit. Concentrated management guidance including merger possibilities might correct the difficulties of individual units with losses or low profits.

The livestock cooperatives market or process livestock, livestock products including milk and eggs, honey, and cocoons. They also purchase items such as feed for their members. Table 2 also indicates data for this group. Processing and purchasing represent 29% and 15%, respectively, of their overall volume of business. As with the horticultural cooperatives, the combined 95 livestock organizations show a loss, but only a small proportion (26 of 95) of the group actually incurred losses. Therefore, a large number of the group were performing satisfactorily and providing some profit. Again concentrated management guidance including exploration of merger possibilities might reduce the number of cooperatives showing losses and low profits.

Table 2.--Selected Data for NACF
Horticultural and Livestock Cooperatives,
Korea, 1970

Item	Horticultural : Livestock	
	Total or Average	Total or Average
Number of cooperatives .. :	53	95
Number of members..... :	38,002	17,719
Average number of members per cooperative :	717	187
Volume of business (mil. won)..... :	6,849	12,582
Volume per cooperative (mil. won)..... :	1,292	1,324
Volume per member (thous. won)..... :	1,802	7,100
Membership investment (mil. won)..... :	356	1,182
Average investment per member (thous. won).... :	9,367	67
Number of workers..... :	538	1,549
Volume of business per worker (thous. won).... :	12,730	8,122
Profit or loss (thous. won)..... :	-13,476	-25,409
Number of cooperatives with loss.....	13	26

Primary Cooperatives

The Primary cooperatives originally were relatively small organizations with separate units in a high proportion of the villages (Ri-Dong) of the country. In 1965, for example, there were nearly 18,000 village cooperatives with an average membership of about 125. Furthermore, the activity and volume of business for many of these cooperatives was extremely small. As a result a policy of merging small and inactive organizations was started. Emphasis in many cases was put on agricultural cooperatives at the Myon level. As a result,

in 1970 there were 5,859 (Table 3) Primary cooperatives with an average membership of 379. Of this total 875 units were at the Myon level. As in the upper level cooperatives, credit in the form of loans and deposits was a much needed service for the farmer members of these organizations.

Table 3 indicates some of the major average characteristics of these organizations. The average volume per cooperative in 1970 was 3,801,000 won, but some organizations were inactive with practically no volume, and others of the Myon type were extremely large. The credit volume, although added as a part of the volume of all Primary cooperatives, was in fact only a part of the volume of the 327 Myon cooperatives that were certified at the end of 1970 for operating mutual credit programs. The loan volume of the Primary cooperatives was estimated by using the total sources of funds such as demand deposits, deposits in kind, other borrowings from County cooperatives and other sources. An additional 2% was added for loans from invested capital and 25% was deducted for reserves to be held by the county cooperatives and for cash on hand. These percentages are consistent with NACF monthly report data. The average credit volume (loans outstanding) of the Primary cooperatives certified for mutual aid was estimated to be 8.6 million won in 1970.

Table 3.--Selected Data for NACF
Primary Cooperatives, Korea, 1970

Item	:	Total
----- In Thousand Won -----		
Number of cooperatives.....	:	5,859
Number of members (thousands).....	:	2,223
Average per cooperative.....	:	379
Volume of business (mil. won).....	:	22,270
Volume per cooperative (thous. won)....	:	3,801
Volume per member (won).....	:	10,018
Membership investment (mil. won).....	:	5,692
Average investment per member (won)....	:	2,561
Number of salaried workers.....	:	4,574
Volume per worker (thous. won).....	:	4,869

Table 3.--(Continued)

Item	: Total
Net profit as percent of volume of business:	.87%
Number of cooperatives reporting loss..... :	402
Total assets (mil. won)..... :	17,745
Percent of fixed assets..... :	44.2%
Net profit (mil. won)..... :	193.8
Net profit per cooperative (thous. won)... :	33.1
Net profit per member (won)..... :	87
Percent of marketing, purchasing, and processing volume on consignment..... :	62%

Table 3.--(Continued)
Estimates of the Volume Makeup of the
Average Primary Cooperative on a Nationwide Basis, 1970

	Percent
<u>Marketing</u>	<u>39</u>
Rice marketing..... :	25
Other grains and potatoes..... :	5
Fruits and vegetables..... :	8
Other products marketed..... :	1
<u>Purchasing</u>	<u>49</u>
Fertilizer..... :	27
Chemicals..... :	5
Implements..... :	8
Other..... :	9
Credit (loans outstanding)	100%

Chapter II

RESOURCES AND OVERALL OPERATIONS

The resources available to NACF are from three basic sources: (1) funds a) made available directly by government through appropriations, b) through transfer of Public Law 480 counterpart funds, and c) through allocation of proceeds of foreign loans; (2) funds made available through the association's own banking system by deposits and by borrowing from other banks, primarily the Bank of Korea; and (3) through accumulation of share capital and reserves from operations. These funds are used to finance the organization's business activities, including government intrusted business and price support programs, as a source of funds for commercial lending, as a source of funds for agricultural lending, and as support for the organization's research and educational activities.

NACF resources have more than doubled during the period 1967-1970 (Table 4). Even allowing for inflation of 12 to 15 percent annually, this represents an increase of 50 to 75 percent. The greatest percentage increase in assets has occurred in mutual insurance. The bulk of absolute increase, however, has occurred in budgetary funds and in banking funds. Of the latter, 78% of the deposits and 63% of the loans are non-agricultural. These two sources represent over 93 percent of total available resources. NACF product marketing and input supply and other business funds are only 4.2 percent of total and equity investment is only 1.5 percent. Both of these indicate financial weaknesses that need to be solved if the organization is to become a strong element in the product and input markets serving agriculture. Further details of the financial structure of NACF is shown in Appendix Table 2.

Total assets available to Gun cooperatives collectively somewhat exceed those of the NACF (Appendix

Table 3). Deposits by individuals represent their largest single source of funds. Business funds are relatively more important than in the NACF, but as is the case with NACF, equity investment is small.

Earning for the NACF and Gun cooperatives have increased (Appendix Tables 4 & 5). Interest on loans and income from insurance sales account for about 44 billion won or about 75 percent of the total. The other major item in earnings is commissions, much of which is related to government intrusted business. Profits on their own accounts are indicated as nominal both for the NACF and for Gun cooperatives. As with the asset structure, the earnings statements indicate the dominance of banking and government business in the organization's operations.

One of the major questions concerning the NACF and the local cooperatives is whether the basis exists for expanding their role to become a more balanced and effective system for serving the commercial interest of farmers and of improving performance in agricultural credit, product and input markets. Farmers' interests are best served by actions that help them to improve their income prospects. This requires efficient methods to provide farm inputs in the kinds and quantities needed, providing credit for production, providing technical knowledge to assist farmers in planning production and investment, providing market information that will assist farmers in making better decisions on what to produce and when and in what form to market their products, providing an efficient system that eliminates temporal and spatial price distortions and that bridges the gap between farmers and consumers at least cost for the services performed.¹ NACF can have a role in performing these functions -- the extent of the NACF role must yet be determined.

¹ For a more detailed analysis of these concepts of market performance, see the paper by Shaffer, et al, prepared for this project: Review of Organization and Performance of the Agricultural Market System in Korea.

Table 4.--NACF Resources as of
December 31, 1967 & 1970
In Million Won

	: 1967	: %	: 1970	: %
<u>Budgetary Funds</u> :	19,228	26.2	56,618	33.4
<u>Banking Funds</u>				
Deposits..... :	18,530	25.3	26,977	15.3
Inter-Office accounts..... :	-	-	26,407	15.6
<u>Borrowing from Bank of Korea</u>				
a) For lending..... :	4,102	5.6	2,673	1.6
b) For business sec- tor..... :	20,100	27.4	30,000	17.8
Agr. credit debent- tures..... :	233	0.3	83	-
Sub-total Banking funds..... :	42,955	58.6	85,040	60.3
<u>Equity</u> :				
Paid-in capital..... :	444	0.6	520	0.3
Reserves & surplus.. :	534	0.8	2,159	1.2
Sub-total Equity.... :	978	1.4	2,679	1.5
<u>Others</u> :				
Mutual Insurance.... :	1,955	2.3	9,409	5.6
Business..... :	2,818	3.8	7,244	4.2
Miscellaneous..... :	5,364	7.3	8,340	5.0
Sub-total Others.... :	10,137	13.8	24,993	14.8
Grand Total..... :	73,298	100%	169,370	100%

Source: NACF.

Agricultural Lending

Agricultural credit is a crucial component for development of the agricultural sector and the volume of credit necessary will increase several-fold in the next decade. A review of the total credit system and the role of NACF in that system is in order at this point.

Essentially three major sources of credit are available to Korean farmers. These are the National Agricultural Cooperative Federation (NACF) including County cooperatives, mutual credit through Myon cooperatives and the private money market. Preliminary figures from the 1970 Farm Household Economy Survey of MAF suggest that cooperative and public credit (NACF) amounts to about 30% of farm household liabilities. The private money market accounts for 60-70% of borrowings of farm households, and "other" represents up to 10% of borrowings.

Private Credit. Non-institutional credit is the largest single source of credit used by Korean farmers.

A recent survey of farm credit in Korea by Kim, Sung Hoon indicated that the average Korean farmer borrowed 25,148 won in 1968. Of this amount, 6,654 won was borrowed from credit institutions (almost completely from NACF) and 18,494 won (or 73.5%) was borrowed from private sources. The percentage of debt from private lenders is consistent with published MAF data.

Private sources of credit include professional money lenders, traders or merchants, manufacturers or processors, other farmers, relatives and friends and "Ke" societies. The 18,494 won of borrowings was distributed among private lenders as follows:

Sources and Amounts of Non-institutional Credit for the Average Farmer - 1968

Lending Source	Professional Money Lenders	Traders & Merchants	Manufacturers & Processors	"Ke"	Agriculturalists	Relatives/Friend	Total
Amount borrowed (won)..... :	1,595	3,343	1,074	1,216	7,598	3,668	18,494
Percent of borrowings..... :	8.6	18.1	5.8	5.9	41.8	19.8	100.0

Source: Kim, Sung Hoon, "The Structure and Functioning of Rural Credit." Preliminary draft of PhD dissertation to be submitted to Department of Agricultural Economics, University of Hawaii.

Other farmers were the main source of private credit. While this may seem odd at first glance, a high proportion of such private credit is in kind rather than in cash. It is not surprising, then, that other farmers who have a surplus of rice would be approached for a loan in kind to be repaid at harvest time. Relatives and friends as well as traders and merchants were important sources of private credit.

Another important characteristic of farm loans -- particularly from private sources -- is the short duration to maturity. The study described found 79.4% of borrowings were for less than one year, and 42.5% were for less than 6 months. Another interesting characteristic was that 45% were unsecured, that is, had no collateral or cosigners. Thirty-two percent had cosigners or guarantor as a form of security. The others had real estate (7%) or chattels or crops (15%) as loan security.

The propensity to use private credit sources is related to size of farm. Very small farms, averaging .39 cheongbo in size, obtained 81.8% of their credit from private sources; small farms, averaging .76 cheongbo, obtained 74.6% of their credit from private sources; and large farms, averaging 2.43 cheongbo obtained 66.5% of their credit needs through private sources.

A 1970 NACF credit survey indicates a number of significant shifts in farmer credit sources. The average amount borrowed increased slightly from the 1968 survey level to 29,508 won. Institutional credit accounted for 33.7% of the total. Of the remaining 66.3%, other farmers provided 71.0%, traders and merchants 8.2%, professional money lenders 2.6%, "Ke" 12.1%, and other sources 6.1%. In comparing these figures with those of the 1968 credit survey it is apparent that farmers have increased their proportionate use of institutional credit as well as their borrowings from other farmers and the "Ke".

Private credit is costly credit. The average interest rate for all credit (including institutions) was 59.2% per annum. The institutional rate of interest, i.e., non-private, averaged 16.3%. The next cheapest credit source was relatives and friends where loans

averaged 48.3% interest per annum. "Ke" society credit averaged 61% interest rate; other farmers, 68.3%; manufacturers or processors, 73.8%; traders, 86.3%; and professional money lenders, 121.7%. In fact, 11.3% of loans from private sources carried interest rates in excess of 10% per month.

Apparently one reason for the high interest rates from private sources is that loans are agreed upon with a rate of interest stated as though the loan were to be repaid in one year when in fact both parties expect the loan to be paid earlier, but no discount or rebate is considered. For example, a loan in kind may be made two months before harvest at a "10%" interest rate. The loan is to be repaid at harvest time with 11 units of rice to pay the principal and interest on a 10 unit loan. So, while the interest rate is 10%, the time period is only 1/6 year and the actual interest rate can be as high as 60% per annum if the price remains constant. Cash loans are negotiated on this basis.

All of this would seem to suggest some educational opportunities for farmers with respect to 1) learning about interest rate calculation and 2) estimating returns to credit and capital.

Mutual Credit (Savings and Loan Plans). Mutual credit is a relatively new innovation which started in the late 1960s. Certain Primary or Village cooperatives (the Myon cooperatives) are authorized to take deposits and make loans in a manner similar to U.S. credit unions or savings and loan associations. These credit plans have grown rapidly from .5 billion won at the end of 1969 to 6.1 billion won by mid-1971. At the end of 1970 there were 319 coops providing mutual credit. Deposits at these cooperatives can, and are, used to support credit needs in the local community.

Depositors may choose among demand deposits, installment deposits, mutual installment deposits or deposits in kind. Loans are made in relationship to the kinds of deposits. The demand deposits pay 12% and loans from these funds carry a 28% interest rate. Installment deposits earn 26%, and loans therefrom cost 28%. Mutual installment deposits earn 28%, and loans from those funds cost 30%. Deposits in kind earn 30% interest either at the prevailing fair market price of

the crop or in kind. Loans are made in kind, and the rate of interest varies from 30 to 35% depending on the policy decision of the local cooperative governing board. Again, payment may be made in cash or in kind with allowances for quality differences. The program has resulted in decreased use of private money lenders by village coop members. Also going interest rates from private money lenders dropped from about 55% to 43% per year as a result of the program.

It seems likely that the mutual credit plans might cut into the large proportion of credit from private sources as they become more widely used in rural areas. The mutual credit or savings and loan plans seem to offer the hope of institutionalizing local credit. While the interest rate is lower than the private individual would charge on loans, the risk of default is also greatly diminished so that this may represent an important alternative for investments. Similarly, it is advantageous to the borrower because of the substantially lower interest rates.

Two additional points, however, are in order. First, to the extent that poorer farmers lacking resources and skill represent poor credit risks, they will still be unable to command institutional credit and a private money market will continue to exist in rural areas. Second, the high rate (by Western standards) of interest paid on deposits in the mutual credit programs suggest a continuing credit deficit in agricultural areas. Also, the small margin between deposit returns and loan charges suggests that there is little problem in keeping the funds invested. It is generally agreed, too, that the private money market rates in rural areas are somewhat higher than in urban areas.

NACF Credit. NACF obtains funds to lend to farmers and non-farm borrowers from several sources. The largest proportion of total funds comes from deposits. At the end of 1970, 95 billion won of the total 224 billion won of NACF and member cooperative liabilities came from deposits. Bank of Korea funds amounted to 33 billion won, capital and surplus (equity) was 7 billion won, and 40 billion won came from other sources including the non-banking credit portions of NACF business.

An important component of NACF credit operations concerns its relationships with government. While NACF is organized as an independent federation, it is in fact, a major implementation agency for government agricultural policy. It extends government loan funds to farmers for purposes of implementing desired agricultural policy. Government also subsidizes NACF to carry out its policies by paying NACF the differential in interest cost between savings deposits earning as much as 23.8% and loans to farmers with those same funds at from 9 to 15% annual interest. Government funds outstanding amounted to 49 billion won in 1970 and were the second most important source of total NACF credit funding. (If only agricultural credit is considered, government sources accounted for 71% of loans granted during 1970).

Deposits at County cooperatives are funneled into NACF and are then distributed by NACF to the County cooperatives on a "formula basis". In a similar manner government funds are distributed to County coops. In determining the "formula" for distribution to County cooperatives, the area of farm land in the county and the proportion of farm households are used. In addition to the formula for distribution, NACF does attempt to make additional credit available for specialized crop projects when their potential has merit.

Cost of funds to NACF varies by source (Table 5). Bank of Korea Funds typically cost 3.5 to 8.0% depending on specific use. Even funds from the government carry a charge based on the specific source of funds. For example, funds coming from the military personnel retirement fund have a cost of 8% per annum.

Interest paid on deposited funds varies by term of deposit and type of account.¹ Deposits of one year or more earn 22.8% annual interest as do regular installment deposits. (Apparently this is a policy which provides incentive for saving on a regular basis.) Six month deposits earn 16.8%, and three month deposits earn 12.0%. Deposits for an indefinite time which require 3 days notice before withdrawal earn 5%. Demand deposits earn less than two percent annual interest. While the interest rates seem to be highly

¹ Effective 17 January 1972, interest rates on time deposits were changed as follows: over two years - 17.4%, one year - 16.8%, 6 months - 11.4%, 3 months - 8.4%, notice deposit - 5%.

Table 5.--Interest Rates for
Borrowings and Loans
Korea, 1970

<u>Rates for Borrowings</u>			
	NACF	:Gun Coop	:Rates on
	From Gov't	:from	:loans to
	or	:NACF	:farmers &
	Borrower	:	:organiza-
		:	:tion
-----Unit: Percent-----			
<u>Budgetary Fund Sector</u>			
Counterpart Fund			
(a) Short term.....	:2.00	3.60	10.00
(b) Medium term	:2.00	4.50	9.00
Budgetary Operation Fund	:5.00	6.40	9.00
Pension Fund	:8.00	9.40	12.00
Long term Irrigation...	:2.00		3.50
Warehouse	:2.00	4.10	88.00
Canadian Foreign Loan..	:5.00	6.05	8.00
<u>Banking Fund Sector</u>			
Agricultural Production			
Short term.....	:8.00	9.40	15.00
Medium term			
Sericulture	: -	6.40	9.00
Livestock.....	: -	6.40	9.00
Project for Increasing			
Farmers' Income	: -	7.50	9.00
Others.....	-	6.40	9.00
Recovery (from drought)..	: -	6.40	9.00
Agricultural Organization	:8.00	-	22.00
Rice Lien.....	:4.00	5.40	11.00
First Usury Debt Settlement	:5.00	7.45	12.00
Second Usury Debt Settlement	:12.00	-	12.00
(Table 5. continued.....)			

Table 5.--(Continued)

<u>Rates for Borrowings</u>			
	NACF	: Gun Coop	: Rates on
	From Govt	: from	: loans to
	or Bor.	: NACF	: farmers &
			: organiza.
-----Unit: Percent-----			
Fishery	8.00	-	10.00
Livestock (Special)	8.00	-	20.00
Loans			
NACF Business Loans	8.00	-	-
General (Non-Farmers)	-	-	22.00
Penal Rate	-	-	36.50

structured, this is general situation for deposit money banks and is not peculiar to NACF deposits.

A breakdown of NACF lending activities for 1969 and 1970 is shown in Table 6. Additional detail is shown in Appendix Table 6. By far the largest lending category is commercial loans. A relatively small proportion outstanding at the end of the year indicates that commercial loans tend to be largely short term. Agricultural lending represents about 25 percent of total lending. Both government funds and funds from the bank's account are used for agricultural lending. Agricultural loans represented about 75 percent of loans outstanding at the end of 1970 and 37% of loans granted during 1970.

The lending operation of NACF is based on a complex interest rate structure. Two major complexities are the relationship of interest rates to purpose of loans or use of funds and the relationship of deposit interest rates to the time dimension. The bounds on interest rates are set by the Monetary Board at the national level for both deposits and loans. NACF and other financial institutions then set their rates within the bounds and policy objectives of government.

The time dimension of interest rates tends to predominate with respect to deposits. Currently, deposits of 1 year or longer earn 22.8%. Installment savings deposits earn 23%, notice deposits (requiring 3 day notice of withdrawal) earn 5% and demand deposits earn 1% to 1.8%. Other savings plans such as postal savings are also available and earn similar rates of interest by term of deposit. Also, earnings are available to savers through the mutual credit plans available at village cooperatives as described earlier.

Interest rates on loans vary by purpose as well as by source of funds. For example, a "farming" loan made from government pension fund sources carries a 12% interest rate while a "farming" loan from government counterpart funds carries a 15% interest rate. On the other hand, a farm "income enhancement" loan from banking sources (deposits) carries a 9% price tag -- the difference between 9% and the 12-23% rate paid on deposits being subsidized by the government. A "farm enterprises"

Table 6.--Loans Granted by NACF and Local Cooperatives, Korea, 1969 & 1970

Item	1969		1970		Increase or Decrease	
	Granted during the yr.	Outstanding as of year end	Granted during the yr.	Outstanding as of year end	Granted during the yr.	Outstanding as of year end
Banking Funds	- - - - - Million Won - - - - -					
Agricultural production.....	19,186	17,496	10,729	8,948	-8,457	-8,548
Agricultural organizations.....	15,217	8,489	7,152	1,783	-8,065	-6,706
Rice lien.....	131	3	--	--	-131	-3
Usury debt settlement.....	--	1,612	-11	1,521	-11	-91
Fishery.....	13,824	4,580	15,838	4,634	2,014	54
Commercial (non-farm).....	78,741	15,700	100,284	23,429	21,543	7,729
Farm enterprise.....	4,661	5,014	10,699	9,224	6,038	4,210
Trade financing.....	508	465	22,503	4,234	21,995	3,769
Medium term facility.....	--	--	6,983	17,215	6,983	17,215
Subtotal.....	132,268	53,359	174,177	70,988	41,909	17,629

(Table 6. continued on page 23)

Table 6.--(Continued)

Item	1969		1970		Increase or Decrease	
	Granted during the yr.	Outstand- ing as of year end	Granted during the yr.	Outstand- ing as of year end	Granted during the yr.	Outstand- ing as of year end
<u>Government Funds</u>	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -
Agriculture.....	10,289	14,312	5,282	14,877	-5,007	565
Irrigation.....	2,942	11,543	3,616	13,664	674	2,121
Warehousing.....	10	115	--	109	-10	-6
Farm price stabiliza- tion.....	2,032	1,015	1,861	1,931	-171	916
Fishery.....	--	--	--	--	--	--
<u>Subtotal.....</u>	<u>15,273</u>	<u>26,985</u>	<u>10,759</u>	<u>30,581</u>	<u>-4,514</u>	<u>3,596</u>
<u>Foreign Loan</u>						
Fund.....	4,432	4,069	-268	3,791	-4,700	-278
<u>Total.....</u>	<u>151,973</u>	<u>84,413</u>	<u>184,668</u>	<u>105,360</u>	<u>32,695</u>	<u>20,947</u>
Loans in						
agricul- ture & forestry only.....	59,408	64,133	68,546	77,296	9,138	13,163

Note: Loans in agriculture and forestry only preclude commercial loans and fishery loans.

Source: NACF.

loan or a "general" loan from banking sources would carry a tag of 22 to 23%.¹ Interest rates of the various loans range from 3.5% for long run irrigation projects using government foreign loan funds to a number of 23% loans using banking sources of funds. Again, loans from Village cooperatives under the mutual credit plan would range from 28 to 35% depending on the loan plan and source of funds.

Finally, two other interest rates which enter into the overall structure should be kept in mind. All overdue loans, regardless of the original interest rate on the note, carry an interest rate of 36.5% from the date they become overdue. This seems to be the one standard rate applied by all institutions to loans of any purpose. A second rate of particular note is the maximum legal rate which is currently 40% per annum. Any rate in excess of 40% would be illegal (as opposed to usurious which applies to any non-institutional interest rate).

NACF serves as an implementation agency for government policies through government controlled credit policies and credit subsidization. The government controls interest rates which can be charged on both loans and deposits. Hence, it effectively limits the margin NACF can earn on its deposits except as funds can be shifted from low interest rate purposes to high interest rate purposes. Further, government appropriated funds are made available to NACF at interest costs ranging from 2% to 5%. These in turn are used for purposes costing borrowers 3.5% to 10% interest. Bank of Korea funds which are used for financing fertilizer sales and some short term production loans cost NACF 5%, and interest rates to farmers are 8.4.

NACF through its County cooperatives makes a number of 9% farm loans from deposit sources. These loans (and a few others) are subsidized by the government in the following manner. All such outstanding loans are totaled at the end of each quarter by the County cooperative. They are then presented to the county and

1 For current interest rates on loans, see last table in the current issue of the NACF Monthly Review.

provincial government for verification that the loans were made and were made for the purpose intended. Once verified, the totals are sent to NACF. At the end of the year, NACF summarizes the four quarterly totals and requests the government to subsidize the difference between the rate received on these loans and the highest rate paid on NACF deposits. Reimbursement for these loans is included in the funds received the next year from the government. Losses on loans are the responsibility of NACF except in rare cases.

Most loans are made directly by NACF or through Gun cooperatives. Gun cooperatives lend both from funds directly available through deposits and from money received from the NACF. Lending by Primary cooperatives is limited to local funds accumulated through deposits since no transfers are made from NACF, either directly or through Gun cooperatives. Loan decisions are made at different levels, depending upon the size of the loan. Decisions on loans up to 500,000 won can be made by the president of the Primary cooperative without consultation. Those up to five million won can be made by Gun cooperatives with approval of Provincial branches of NACF, but all loans in excess of five million won must be referred to NACF in Seoul for decision.

Calculation of costs and returns on funds is extremely difficult. For example, Table 7 illustrates some of the difficulties. Rates are charged by sources and use which, though complex, would not create great problems if all funds were fully invested at all times. However, loans outstanding are less than sources, and some of the funds apparently are left on deposit or are used to support other business activities of NACF. The table figures suggest that simple gross margins between NACF cost and final borrower cost of funds varies from 1.5 percentage points to 10 percentage points. The simple gross margin on deposit money is approximately 4 percentage points. However, this figure is only approximate since it depends on the make-up of both the sources of funds and the uses of savings deposits. Table estimates for costs and earnings for deposit money are weighted averages of amounts by source and purpose on July 31, 1971. The estimates are consistent with other estimates.

Table 7.--Costs and Rates Charged to Borrowers of
Funds Used By NACF, Korea, July 31, 1971

Fund Source	Interest Rate	Amount of Funds	Lending Rate	Type or Purpose	Gross Margin
Bank of Korea	5%	49,785	15%	Fert. & Production	10%
Government...	2%	14,830	3.5%	Irrigation	1.5%
Government...	2%	3,768	9%*	Counterpart Funds	7%
Government...	3%	1,261	9%	Price Stabilization	6%
Government...	5%	3,785	8%	Foreign Loan	3%
Government...	5%	14,261	9%	Budgeting Fund	3%
Other Gov't..	5%	17,190	?	On Deposit?	
Deposits.....	11.5%	100,330	15.5%	Loans From Bank	4%**
				Funds	
<u>Total</u>					
<u>Sources</u>	205,210/Total Loans 127,465				

* Mostly 9%

** Before government subsidy.

Source: NACF.

Two points can be made from the preceding information. First, the government is providing a sizable subsidy to Korean agriculture through credit programs. Assuming free market rates of interest in rural areas for institutional credit in the 24% to 30% per year range, nine percent interest rate loans amount to a 15-21% per subsidy. The weighted average rate charged on loans from government fund sources in 1970 was about 6.7% which would seem to represent a 17 to 23% subsidy compared to assumed rural free market institutional interest rates.

The second point is that the simple gross margins estimated in Table 7 apparently are not excessive given the large number of small loans serviced and the high risk associated with such lending. NACF profits have been rather nominal in recent years, and apparently a 4-6% simple gross margin is necessary though it represents a rather high figure by U.S. standards.

One rather obvious recommendation comes to mind concerning interest rate structure. It would seem highly desirable to have a simpler structure of interest rates tied to loan purpose rather than source of funds. One might envision a four purpose breakdown for interest rates for example. "Government policy" loans carry rates of 9%; short term production loans, 15%; intermediate loans, 24%; and consumption or other purpose loans, 30%. A three or four purpose structure such as this could eliminate inconsistencies in rates based on source of funds, cut down on accounting problems, and ease operations in other respects as well.

Three important and interrelated questions have to be asked about the NACF agricultural lending program. One is the role of interest subsidy as a basis for subsidizing agriculture and the effect of differential interest rates on operating procedures. The NACF has limited funds and the alternative sources of credit for many farmers are at very high rates charged by local lenders. Government subsidized credit, because of its favorable terms, sets up a system where potential favors and payoffs may be necessary to qualify for loans. While such things are difficult to document, a recent study of farm credit found farmers were paying 5 to 10% of the

principal of favorably priced farm loans to cooperative personnel in order to obtain the loans.¹ Probably such highly subsidized interest rates would lead to similar problems regardless of the agency responsible for lending, but the situation does suggest a problem in getting funds to the farmers they are intended to help.

Procedures for extending credit often lead to poor results. Both the Myon and County cooperatives utilize local "village leaders" in deciding who should receive loans. This approach often leads to political weighting in the decision and/or splitting the loan funds equally among a large number of people none of whom then receive enough funds to make major capital investments of a productivity enhancement nature.

Simplification of interest rate schedule on NACF loans is needed. The present complex structure of interest rates is confusing and inefficient. A three or four rate schedule should be adopted based on loan purpose rather than source of funds. Government "priority policy" loans could be set at the lowest interest rate, for example at 9%. Government "policy" loans could be set at a somewhat higher rate, say 15%. These would consist mainly of production type or intermediate capital investment loans. In both cases, the government would need to set maximum loan amounts on which they would subsidize interest rates above and beyond government appropriations for such loans. In short, the government would appropriate some funds for these two purposes and then would agree to pay NACF an interest differential or subsidy for any NACF funds they wish to put into these two loans up to a maximum amount. A third interest rate would be essentially free market rates sufficient to cover NACF operating costs and interest on deposits. This latter rate would probably fall in the 24 to 30% range and might well vary by term of loan as costs on deposit funds also vary by time term. While a 24-30% interest rate sounds high, it still represents a great improvement

1 Kim, Sung Hoon, "The Structure and Functioning of Rural Credit in Korea: An Empirical Analysis," preliminary draft of Ph.D dissertation to be submitted to Dept. of Agricultural Economics, University of Hawaii.

compared to private money rates -- the alternative for the farmer-borrower.

Finally, the lending procedure is complex and is one of the important problems facing NACF in its lending operation. Steps have been taken to correct this problem. A process is to be implemented whereby the number of forms required to obtain a short term production loan will be reduced from seven to one, and the number of forms required for longer term mortgage loans will be reduced from about 25 down to 7. Further efforts to streamline the paper work and procedural process for providing loans appears warranted.

Another question is the nature of the credit program as it affects individual farm management and scheduling of marketings. Loans to be repaid in kind are granted for fertilizer used in grain production. These loans become intermingled with the price stabilization program and are used as leverage in acquiring grain for government stocks at harvest time. The quantities involved vary greatly from year to year. In 1968 the quantity in this program was 209.5 thousand metric tons. This dropped to 27.6 thousand tons in 1969 and increased to 124.1 thousand tons in 1970.¹ Prior to 1971 government purchases of rice at harvest time were at a price below that which farmers could receive from merchants. The penalty is compounded because farmers must sell at harvest time and there is no potential gain from seasonal price rises. Under this program the actual interest rate or cost of loans to farmers is impossible to compute, but clearly is well above the stated interest rate. Its effect on the image of NACF among farmers would seem to be obvious.

Loans outside this payment in kind program are made for periods of six months or more. The reduced interest rate of nine percent applies for the period of the initial loan, but is increased to the commercial rate currently 19 percent if delinquency occurs.

1 Unpublished manuscript, Kim, Young Bok, Grain Management Special Account, RDD, Seoul, Korea, May 1971. Appendix Table III.

An element lacking in all NACF lending is analysis that seeks to budget individual farm programs with a view toward projecting repayment capacity. A program of this kind should be instituted particularly if NACF increases its involvement in medium and longer term facility loans.

Another important question is whether funds available for lending to agriculture can be increased. The interest rate structure presents a problem in that farm loans at nine and 15 percent can be made only from government subsidy. With an annual inflation rate of about 12 percent these loans are being made at a real interest rate of -3 to +3 percent. The commercial lending rate currently is about 19 percent. This represents a real rate of only about 7 percent. Farmers could be helped more by larger amounts of short term credit at the commercial rate than as currently by restricted amounts on a subsidized basis. If NACF lending to agriculture were at the commercial rate, the NACF potentially could expand its capacity to attract funds for agricultural lending and ultimately (though probably not immediately) the use of government funds could be discontinued.

A program of this kind along with the development of expertise in farm budgeting and analysis to improve lending practices could be a major help to agriculture. To achieve this the NACF should include supervised agricultural lending at market rates as one of the functions through the cooperatives that serve farmers.

Establishment of a money market for debt securities in Korea could provide an additional source of credit funds. At present it is almost impossible for an agency like NACF to sell bonds or debentures as a means of raising funds. There is a need for a system, and for enabling legislation, for NACF to sell debt securities, particularly in urban areas, as a means of gaining access to savings for distribution in capital deficit rural areas. Originally it may be desirable for the government to guarantee the instruments to build investor confidence. Establishment of a debt security market (i.e., bonds and debentures) is perhaps a next logical step in financial markets for Korea's developing economy.

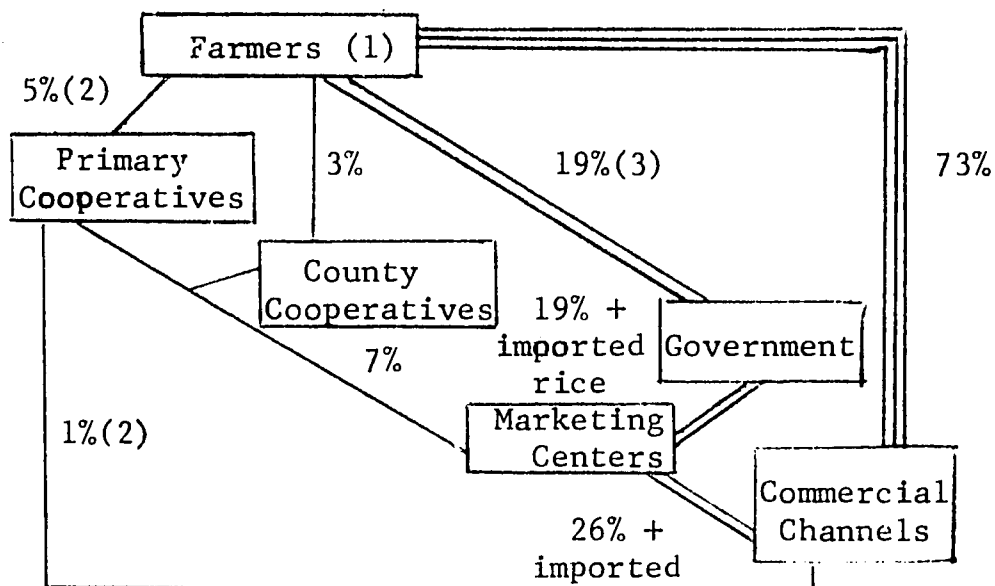
Agricultural Marketing

The role of NACF in agricultural marketing varies by commodities, but in the overall it handles a small proportion. These breakdowns for major commodities are shown in the channel maps, figures 1-5. NACF is the principal, and in some cases the only, handler of a number of minor commodities (Appendix Table 7), but for the most part, these are handled as government intrusted business. In major commodities, including grains, but also in fruits and vegetables and livestock products, NACF is not a major participant in the market on its own account. A modest increase has, however, been achieved in recent years (Appendix Table 8).

The central focus of NACF's internal marketing system is Agricultural Marketing Centers that have been established in the country's five major cities. These are wholesale markets and are redistribution points to private wholesalers and to direct retail outlets. As shown in Table 8, volume in these centers has increased steadily through time and is heavily weighted by grain and fruits and vegetables. Supplies in these markets arrive both directly from farmers and from cooperatives located in the vicinity of each center. The delivery system has recently been increased by the addition of seven collection centers adjacent to the super highway from Seoul to Pusan. These centers have storage and reloading facilities and a truck which collects small lots directly from farmers or from local coops and delivers to the marketing center in each city. Since these centers are few in number and new, it is too early to judge their economic impact on farmers. They do, however, provide visibility for the organization.

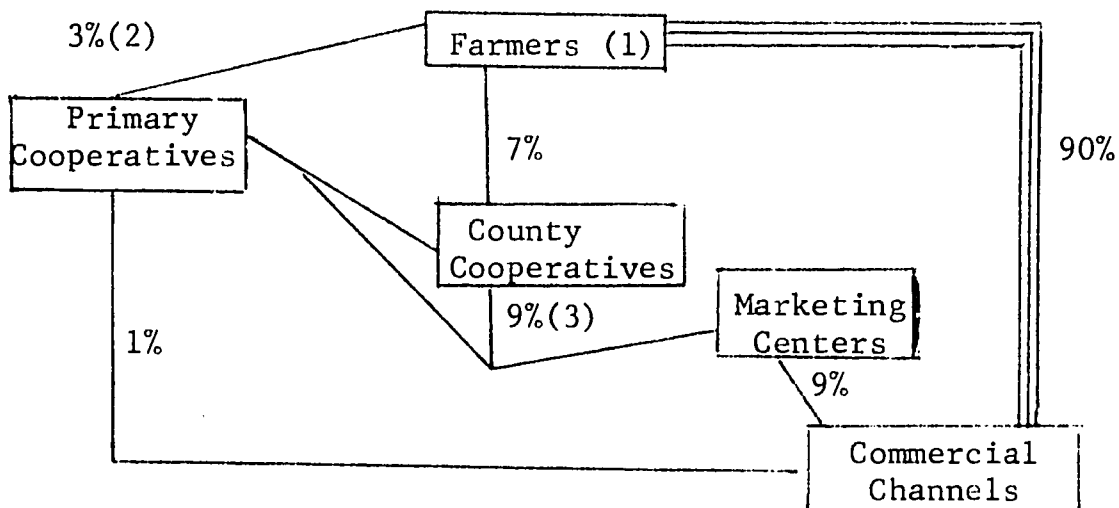
Commodities are handled in the city marketing centers on a commission basis. The centers also serve as a part of the distribution system for government grain acquired under the price stabilization system.

A key element in the organization's marketing activities are those associated with the government's price stabilization and market guarantee programs. In these programs the NACF acts as an agent for the government



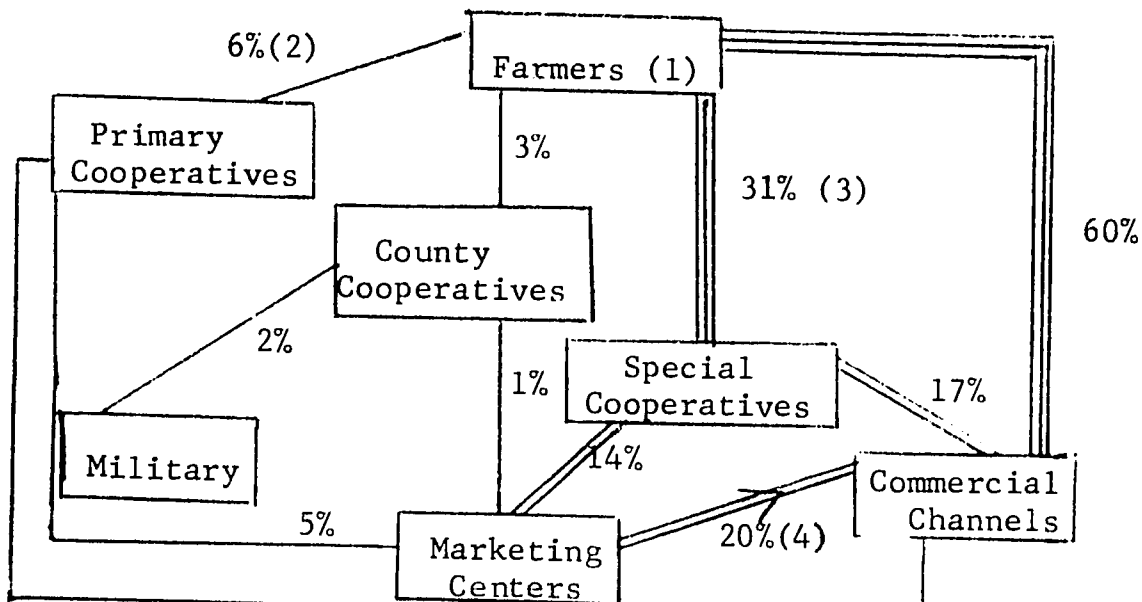
- (1) Domestic rice was estimated to be 53% of farmer's cash income in 1970 - Ref. 5, page 149.
 (2) Ratio in (5) applied to data in Ref. 12.
 (3) Unpublished data of Marketing Centers; also see Ref. 7.

Figure 1.--Domestic Rice Market Channels



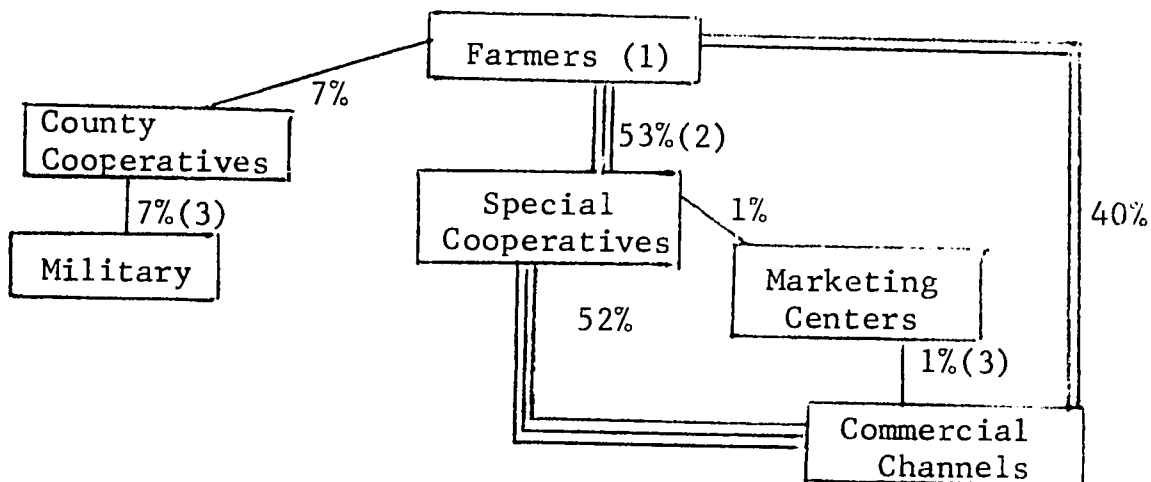
- (1) Other grains & potatoes were estimated to be 15% of farmers' cash income in 1970 - Ref. 5, page 149.
 (2) Ratio in (5) applied to data in Ref. 12.
 (3) Unpublished data of Marketing Centers; also see Ref. 7.

Figure 2.--Other Grains and Potato Market Channels



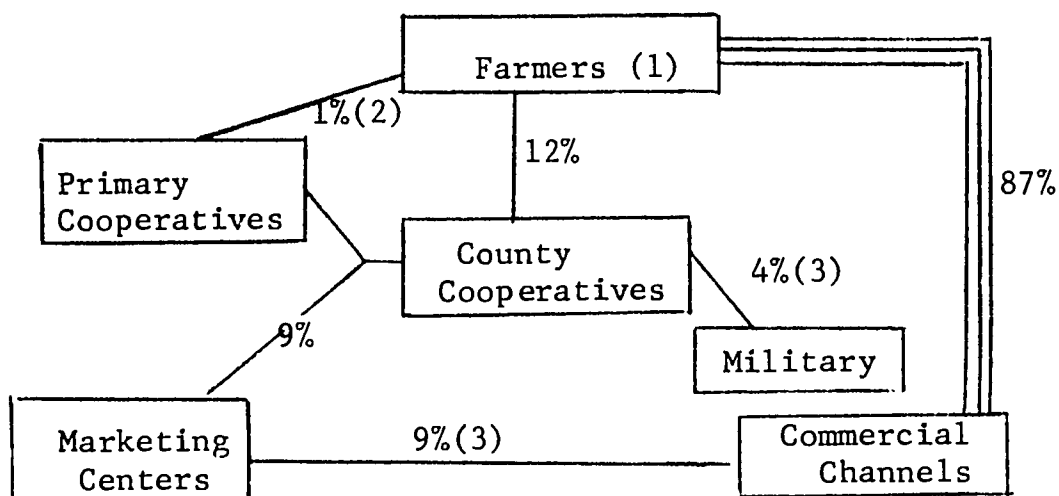
- (1) Fruits & vegetables were estimated to be 13% of farmers' cash income in 1970.
 (2) Ratio in (5) applied to data in Ref. 12.
 (3) Ref. 26 & 28.
 (4) Ref. 7.

Figure 3.--Fruits and Vegetables Market Channels, 1970



- (1) Livestock & livestock products were estimated to be 11% of farmers' cash income in 1970, Ref. 5, pg.149.
 (2) Ref. 26 & 28.
 (3) Ref. 7.

Figure 4.--Livestock and Livestock Product Market Channels



(1) Other produce was estimated to be 8% of farmers' cash income in 1970, Ref. 5, page 149.

(2) Ratio in (1) applied to data in Ref. 12.

(3) Ref. 7.

Figure 5.--Other Produce Market Channels

Table 8.--NACF Marketing Volume by Years,
Korea, 1961 - 1970

Growth Tendency of Marketing Center Business						
Division : Marketing Center's Business :						
Year	:	:	:	:	:	:
	Grains	Fruits	Products	Sub-	Gov.	
	:	:	& other	total:	grain:	
- - - - - Million Won - - - - -						
1961....	23	31	6	:	60:	
1962....	545	275	22	:	342:	
1963....	611	500	115	:	1,226:	
1964....	1,638	896	101	:	2,635:	570
1965....	3,536	1,052	171	:	4,759:	4,009
1966....	4,007	1,310	90	:	5,407:	9,367
1967....	3,628	1,617	140	:	5,385:	12,650
1968....	4,098	2,127	118	:	6,343:	24,598
1969....	6,130	3,133	269	:	9,532:	36,654
1970....	9,874	4,253	123	:	14,250:	46,849
TOTAL:			TOTAL:			
1961....	60	:	1966....	:	14,774	
1962....	842	:	1967....	:	18,035	
1963....	1,226	:	1968....	:	30,941	
1964....	3,205	:	1969....	:	46,180	
1965....	8,768	:	1970....	:	61,099	

(estimate) Source: NACF.

and purchases commodities at prices and commissions specified by the government. A number of minor commodities including sweet potatoes, rape seed, malting barley, cocons, red pepper, garlic, sesame seed, and eggs are included in these programs. Funds required are estimated in advance each year and these are provided annually by the government for market stabilization purposes. The funds are returned to the government each year and new estimates and allocations are made for the following year.

The government price stabilization programs for grains concentrate most heavily on rice and barley. These programs involve establishing a quota prior to harvest each year as a government purchase target. The program has been oriented toward maintaining reduced consumer prices as the marketing year progresses and not toward price support for farmers. In fact, prior to the 1971 rice year¹ government purchase price was generally below what farmers could receive in the market at harvest time. Purchases, nonetheless, were achieved on two basis: NACF sells certain quantities of fertilizer prior to planting season on a commodity exchange basis and farmers are obligated to pay in kind. Secondly, government can legally insist that all land taxes be paid in kind and this method has been used to obtain deliveries of grain below market prices.

In foreign trade the NACF also has a somewhat special position. It is intrusted with imports of rice for price stabilization purposes. Also it is not required, as is all private enterprise, to obtain a license from the government to import. The organization has no legal limits on its imports, but it does not invade non-farm agricultural business and does not import food commodities that would tend to depress agricultural prices except as these are directed by government in connection with price stabilization operations. Its major focus has been on importing needed agricultural inputs, including feed stuffs and other supplies. On about 60 percent of its imports the NACF acts as an agent of government on a commission basis. Emphasis on exports has been on agricultural commodities and the product of farmer cottage industries. The general composition of agricultural exports and change from 1969 to 1970 are shown in Appendix Table 9.

¹ The 1971 rice year began November 1970 and ended 31 October, 1971.

The marketing program of NACF has expanded in recent years, but a number of important deficiencies continue to exist.

The marketing staff appears to be qualitatively weak. NACF field personnel tend to be generalists and guidance activities are concentrated on developing annual plans and on implementing the lending program and collecting loans. As in the case of input purchases for farmers and credit services, little attention is paid to advising and guiding farmers in production and marketing programs or of providing outlook information that will assist farmers in making decisions.

Supporting research activities both in government and within the organization are inadequate. Statistics available for general market analysis are limited and often biased. No information or research on consumption and demand is done and no research is available to offer guidance on prospective market conditions. This makes the problem of risk bearing great and inhibits planning of facilities and programs to improve the organization's market operations. In general, the marketing program, except for government intrusted activity, appears to have had a low priority within the organization.

Farm Input Services

As indicated in Table 9, the organization's farm input business is weighted heavily toward fertilizer. Virtually all fertilizer is supplied through NACF channels as shown in Figure 6. This is government intrusted business. The association receives a commission of 156 won per metric ton as a handling fee. Under government direction, fertilizer is sold to farmers at a price below that which the association pays manufacturers. The government subsidy amounted to a total of 17 billion won for the 1966-71 period. The farmer subsidy was approximately 12% of manufacturers price. As a result, prices to farmers are not excessive relative to world prices even though the Korean manufacturing industry is relatively high cost.

Fertilizer sales are closely connected to the NACF's lending activities.¹ The collection of interest on loans for fertilizer purchases represents an additional income to the organization and helps cover costs of handling, which according to members of the organization, are not fully met by the commission permitted by the government.

The organization provides approximately 80 percent of agricultural chemicals used by farmers (Figure 7). A credit fund of two billion won is provided by government plus a subsidy of one billion won, which is used to improve application procedures.² Subsidies help cover costs on approximately 55 percent of total chemical sales and the remainder is handled on the organization's own account. As with fertilizer, chemicals are sold largely on credit with payment expected at harvest time.

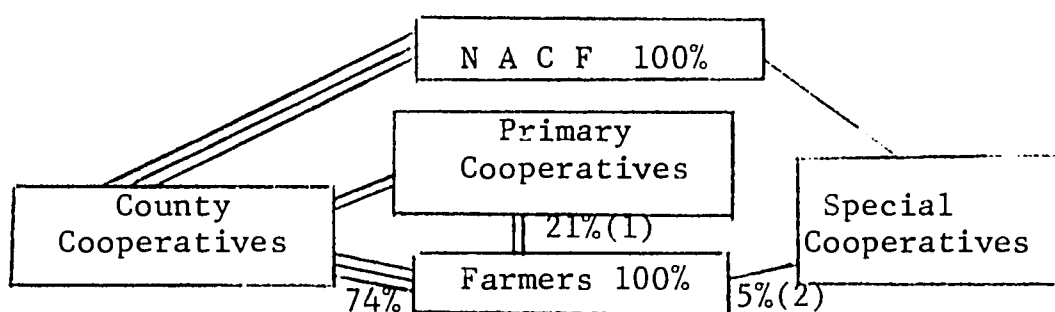


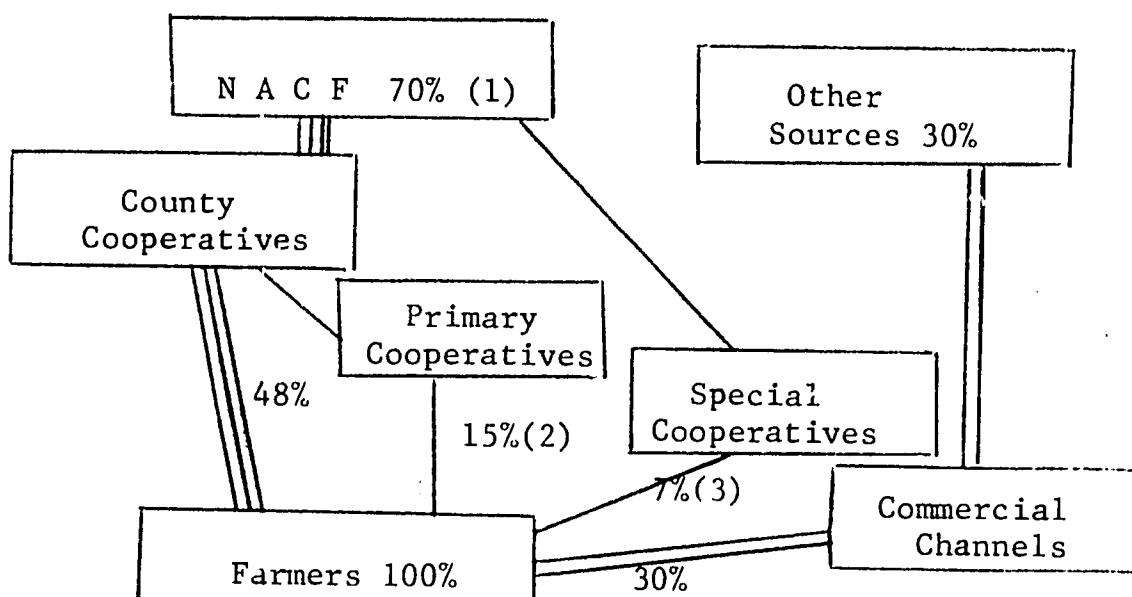
Figure 6.--Fertilizer Purchase Channels Used By
Farmers, 1970

(1) Estimated from Ref. 12.

(2) Estimated from Ref. 28.

1 The proportion of fertilizer sold on credit has declined from 68% in 1966 to 34% in 1970, probably in reaction to the delivery of rice for repayment.

2 If government determines there is a need for application of insecticides in an area to prevent spread of disease, the spraying is required and the subsidy of 1 billion won (.89 billion was actually used in 1970) is used to cover approximately 50% of the cost of the chemical. Personnel from Gun and Primary cooperatives are used to implement the program without compensation.



- (1) Estimates of NACF.
 (2) Estimated Ref. 12.
 (3) Estimated from Ref. 26 & 28.

Figure 7.--Farm Chemical Purchase Channels Used By
Farmers, 1970

Table 9.--NACF Sales of Farm Supplies*
Korea, 1965-1970

	Million Won					
	:1965	: 1966	:1967	:1968	:1969	:1970
Fertilizers..	:21,717	: 22,569	:22,493	:24,525	:28,368	:30,176
Others	:	:	:	:	:	:
Farm	:	:	:	:	:	:
Chemicals...	: 781	: 843	: 1,309	: 1,952	: 3,786	: 5,087
Farm Imple-	:	:	:	:	:	:
ments.....	: 205	: 163	: 684	: 968	: 2,052	: 2,218
Foods.....	: 150	: 36	: 81	: 624	: 1,105	: 957
Seeds &	:	:	:	:	:	:
livestock...	: 527	: 938	: 1,224	: 1,407	: 2,331	: 1,487
Miscellaneous	: 130	: 10	: 30	: 507	: 526	: 701
Subtotal.....	: 1,793	: 1,990	: 3,328	: 5,458	: 9,800	:10,458
Grand Total..	:23,510	: 24,559	:25,821	:29,983	:38,168	:40,626

* For greater detail by commodity groups, see Appendix
Tables 10-13.

The volume of other inputs supplied is relatively small (Figures 8 and 9) and as of January 1, 1972, the organization has discontinued handling heavy farm implements under government farm mechanization credit. Volume of livestock feed have been relatively modest, but this should increase. The existing NACF feed plant (production 16,558 tons in 1970) is being augmented by a new plant with a 45,000 ton annual capacity.

An important problem facing the organization in its farm supply business is the determination of farmer demand for inputs and establishing adequate programs of distribution.¹ Adequate market information and feedback on farm practices does not exist and the association uses various, but mostly ad hoc, methods in determining both quantity and price for farm inputs. Fertilizer demands have been overestimated and substantial excess inventories are accumulating, due to "locked in" purchase contracts on this government intrusted business.

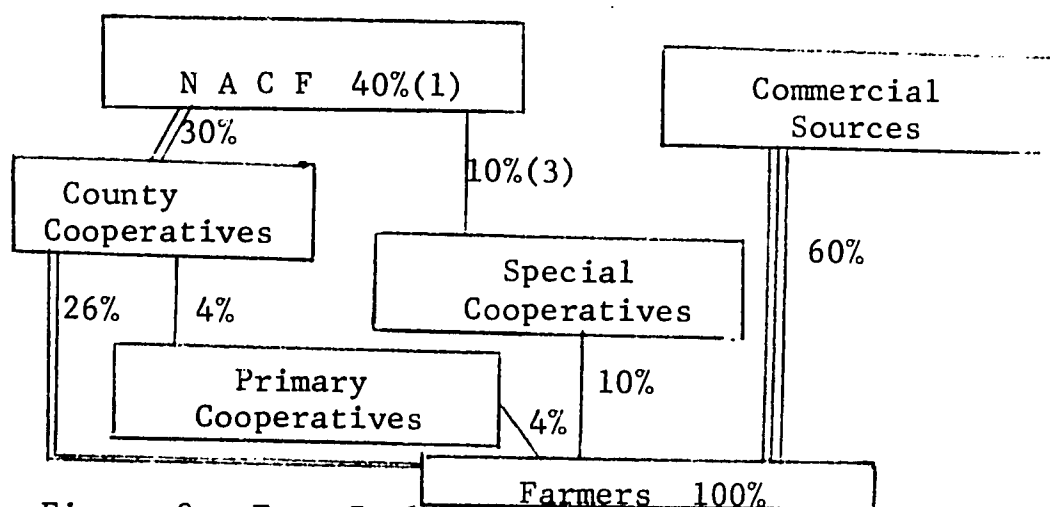
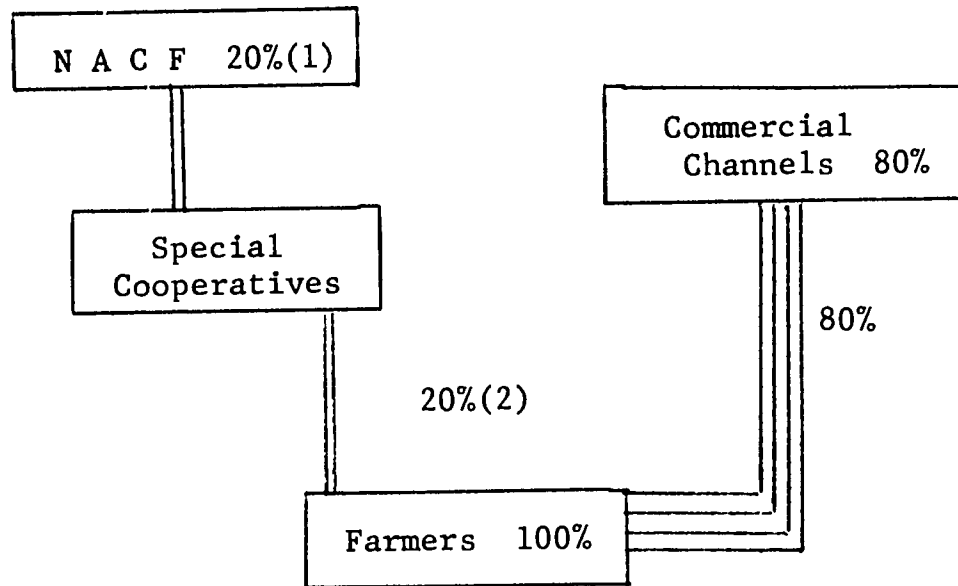


Figure 8.--Farm Implements Purchase Channels Used by Farmers 1970

(1) Ref. 7. More large implements than 40% through NACF & Cooperatives. More small implements than 60% through commercial channels. As of Jan. 1, 1972, NACF no longer supplies large implements.

(2) Estimated from Ref. 12. (3) Estimated from Ref. 26 & 28

1 Prior to 1970 fertilizer was distributed on a village allotment or allocation basis and problems of achieving appropriate distribution arose. Farmers now can buy any quantity they want, provided they use a recommended mixture.



- (1) NACF estimates.
 (2) Estimated from Ref. 26.

Figure 9.--Feed Purchase Channels Used By Farmers

NACF Research Activities

Establishing an adequate program of supply, demand, and price analysis to assist in making decisions should receive a high priority. In part, this involves change within the NACF, but also requires cooperation from government. The government's role lies largely in providing accurate and unbiased basic data, systematic outlook information, and basic research on structural and response conditions in agriculture.¹

The NACF should use its own research staff to gather specific data and make specific analyses and projections that will provide a direct information input for decision making and business planning within the organization. A feedback information system through local cooperatives can be an important complement to this kind of analysis and should be required.

¹ See Hathaway and Rossmiller, "MAF Organization" paper for further elaboration on this point.

In the overall, this aspect of the NACF's program is a key element in determining whether the organization can effectively serve farmers. To improve production practices farmers need inputs, credit, new technology and information on how to use them along with the incentive of expected increase in income and welfare from making changes. Providing this kind of service is a joint responsibility of government through educational services and commercial cooperative specialists who can provide guidance at the time the farmer is making decisions on purchases of inputs and on investments required in his farm operation. In this area a major opportunity exists for the NACF.

Other Activities

In addition to the core commercial activities -- banking and credit, marketing farm products, and supplying farm inputs -- the organization has the following programs:

1. An artificial insemination service started in 1963, to improve breeds of livestock. This unit operates at a loss and requires a government subsidy (7,271,000 won in 1971).
2. A mutual insurance program that includes endowment life insurance, juvenile education insurance, and damage insurance for fire and livestock losses..The insurance program is expanding rapidly and could become an important component of NACF activities in the future (Appendix Tables 14 and 15).
3. A guidance, education, and information program that includes managerial guidance for Primary cooperatives, farm guidance to encourage various kinds of group activity, cooperative business and management guidance for the staffs of Special cooperatives and a variety of general education and training activities. These education and guidance programs are carried out in part by a field staff of guidance personnel and in part through the staff of a two-year college owned and operated by the organization.
4. A research program that includes various kinds of technical studies in agriculture, agricultural marketing, and farm management. The organization also maintains, at government request, an agricultural outlook section. NACF receives 1,390,000 won annually from MAF which covers

approximately 25 percent of the cost of outlook work. No direct payments are received for research, though much of the work is of general interest and not specific to problems facing NACF.

The organization has recently established an office of consumer goods supply and is placing major emphasis on expanding this activity. The kinds of commodities handled and the proportionate volume of each is shown in Table 10. This program is less than two years old, but already approximately 400 rural stores have been established and it is estimated that by 1978 the completed system will consist of approximately 1,500 stores. The objective of this system is to provide for joint purchasing and selling in order to maintain a reasonable level of prices for consumer goods at the farm level, and as a result to enhance farm income levels. At present it appears that these stores are not profitable. If experience from other countries is meaningful, it is not likely that they will become profitable.

A major reason for this is that diversified retail outlets that handle food, clothing, hardware, and other lines usually cannot compete with private entrepreneurs who specialize in one or the other of these lines. Inventory and investment requirements and the information needed to effectively purchase and merchandise a wide range of products tend to preclude successful multiple product retail merchandising at the scale of operations possible in rural communities.

Table 10.--NACF Sales of Consumer Goods in Rural Stores, Korea, 1970-1971

Result Item	1970		1971 to 10-31		Reference
	Value	Proportion	Value	Proportion	
	-Million Won-				
Foods.....	221	10	424	24	Seasoning Ramyon, sugar, candy, beverage.
Footwear.....	247	12	184	11	Rubber shoes, rubber boots, slippers.
Clothes.....	534	25	155	9	Shirts, jumper, coat, ready-made clothes.
Utensils.....	165	8	144	8	Pottery, plastics, stain- less, aluminum.
Medical & Personal Cares.	71	3	87	5	Toothbrush, tooth paste, soap.
Housing Mate- rials.....	78	4	47	3	Wallpapers.
Stationaries..	75	3	64	4	Notebook, envelopes, paper, pencils.
Durable consumer: goods.....	269	13	335	19	TV, radio, auto, bicycle, motor, fan.
Miscellaneous goods.....	61	3	51	3	Bag, umbrella, battery.
Supply out of chain store...	414	17	234	13	Slate, cement, feed, pe- troleum oils.
Local goods			20	1	Clothes, misc. consumer goods
TOTAL.....	2,135	100	1,745	100	

Source: NACF.

CHAPTER III

A REORGANIZATION MODEL

Over the last decade NACF has assumed such a multiplicity and complexity of functions in behalf of the Ministry of Agriculture and Forestry that NACF has lost the managerial functions of balance and accountability. Neither number nor complexity are undesirable per se. But, when management loses the capacity to balance them and to maintain accountability for performance, then management has reason to question its current validity and reliability in executing its responsibilities.

This condition of imbalance is not unusual in any dynamic organization whether it is industrial, educational, or governmental. However, there are striking differences in the method of correcting the condition. Industrial organizations are alert and responsive. When any lack of or mismanagement of resources occurs - - whether it is financial in the form of excessive costs or low returns on investment; whether it is manufacturing resources unable to meet the quantity and quality demands at a competitive cost; whether marketing and sales are unable to match the manufacturing capacity or the competition; whether it is the organizational division unable to recruit, maintain, and motivate their human resources to fulfill the job demands -- the effective industrial organization acts quickly to regain the balanced utilization of its resources and implementation of its performance goals.

A government or quasi government organization is not as alert to its tendency to proliferate and its consequent imbalance in part due to attempts to satisfy a multiplicity of objectives with the result that there is no single maximizing criterion upon which to judge performance. It is not as responsive in regaining the balanced performance and accountability of its resources. Even though the government is by nature

more of a political bureaucracy, the criteria for performance and accountability are no less important in assuring proper checks and balances.

Operations of the NACF are dominated by its banking business and by government intrusted activities. Internal resources in turn are allocated to fulfilling these two roles. Major components of each of its operating areas -- credit, input purchases, and marketing -- are controlled, or closely directed, by government. The organization's lending activities are profitable and expanding. Lending for agriculture is inadequate and distorted by specifications imposed by government. Marketing and purchasing activities handled on the association's own account are limited and of doubtful profitability although present accounting procedures make exact profit determinations impossible. As indicated above, the organization is dominated from the top down. Its direct linkage with agriculture, except as a banking institution and as a tool of government policy is weak.

The condition of imbalance may be the consequence of the Ministry of Agriculture and Forestry operating at its level of bureaucracy (in relationships to other bureaus and the NACF planning board) on a fixed budget with little or no flexibility and with limited ability to implement through its own structure priority programs over time. As a result, the Ministry of Agriculture uses NACF as a primary instrument to implement its programs and to achieve its ends because NACF has the necessary flexibility. Operationally, it has been a very pliable instrument without which many of the programs in agriculture could not have been initiated. However, because it is a Ministry of Agriculture policy execution instrument, NACF is used to do many assignments that are questionable and compromising for NACF. As a result, unusual efforts are required from time to time to legitimize certain procedures and programs.

It became necessary to expand the banking function if NACF were to fulfill its public and primate roles. This entire credit operation became complicated by the varied sources of funds -- farmers' monies, government monies, Bank of Korea money, outside creditors. NACF

became preoccupied with the sources of funds and their wide variability of interest rates rather than with the uses of the monies by the farmers. The banking and credit business is voluminous and complex and has unduly distracted the organizations' attention from the introduction and implementation of farm supply and marketing programs. Throughout the central NACF operations, lending, collecting and other activities take precedence over professional service to the farmer.

The government involvement in the attempt to stabilize the price of commodities has required excessive time to work with the built-in rigidity of the system. Rather than being used as a stabilizing factor avoiding wide price fluctuations, they have adhered to inflexible government pricing which has not always been competitive with the commercial market. Moreover, the government commitments through NACF on fertilizers, pesticides, farm equipment, and other inputs have not always been advantageous to farmers. The attention has been concentrated on the production aspects of agriculture rather than the total process which increasingly emphasizes marketing. This functional displacement of effort creates additional imbalances in the system.

At present NACF has no choice and very little voice in the kinds of programs it is required to implement, nor in the details of their operation. That the NACF has been the visible institution handling these programs has impaired its image among farmers. (Thus many of the NACF problems stem from government policy.) Clearly some of these policies should be changed. If this is not done and if the NACF and its affiliated cooperatives continue to implement programs that are detrimental to farmers or at best ineffective, the chances of their becoming a viable cooperative system serving agriculture and obtaining the support of farmers is extremely limited. While NACF should continue to act as an instrument of policy for the government, these operations should not be such that they alienate farmers and seriously impair the NACF as a commercial marketing and farm supply institution. Further, government should adequately compensate NACF for its activities. There is general feeling within the NACF that adequate compensation has not been provided for

most of the government intrusted business handled by the organization and the local cooperatives do not have adequate incentives to aggressively pursue their local business activities.

These frustrations lead to a condition of apathy or complacency in trying to cope with the contradictions. The image of the organization is not positive.

Although it is named cooperative, NACF is not operationally a cooperative association organized by, financed by, and operated by farmers. At times it operates against the best interest of farmers. Consequently, NACF is widely seen both inside and outside the organization as being governed and directed from the top down. It is not an organization that derives its vitality or validity from the farmers at the broad base of the pyramid upward.

A recent survey in a representative region showed that fifty six percent of the farmers had little confidence in and thought poorly of the NACF and its programs.¹ (The farmers (59%) thought even more negatively of the ORD Extension Program.) The orientation of the NACF field people is almost exclusively upward, which reflects NACF as being government dominated and preoccupied with its own affairs.

Two key institutional issues are involved in reorienting NACF to serve as a more effective tool in improving the welfare of farmers and increasing output and productivity in agriculture. One of these is philosophical and will require a redirection of motives and the perspective of NACF leadership at all levels. A philosophy that orients the organization toward responding to the real needs of farmers must be developed. This is not an issue that is entirely internal to NACF. It also involves the entire set of government policies for agriculture. Topdown direction of

1 Joh, Dong Hoo, etal. The Evaluation of Success of the Primary Cooperatives in Korea. Research Department, National Agricultural Cooperatives Federation (A MOST-USAID Trust Fund Project), 1971.

agricultural policy without a feedback system that accounts for farmer attitudes and responses, cannot work effectively. The problem, however, is important to NACF, both in assessing its own operations and in assessing the role NACF should play in implementing government policy.

A second component of reorientation is to determine the kind of internal operating procedures and the functional linkages that are required to implement a farmer oriented business. Achieving this kind of direction involves a number of changes, both internal and in its external relationships with farmers and with government.

A well defined functional breakdown of activities is needed. A natural division of operating activities at the national level would appear to be (1) financial and credit, (2) product marketing, (3) input supply, and (4) insurance. These operating or line functions should be supplemented and supported by a number of staff functions and activities. While important the exact organization is less crucial than establishing clear responsibility for operation of each major function performed by the organization.

Currently NACF county, local and even national level managers receive direction from higher levels on operating procedures, personnel decisions, and pricing. Manager selection and salary is not directly related to performance criterion. Throughout NACF, a system should be developed that assigns responsibilities to management, holds management accountable, and provides rewards commensurate with performance.

To achieve this would require maintaining full and adequate financial and operating accounts for each division.¹ Accounts prepared by the organization should be subject to annual professional outside audit

1 Balance sheet and operating statements by departments were not available for this exercise.

and to governmental review.¹ With established objectives guidelines, and adequate records, the basis would exist for assigning management responsibility, establishing accountability, and providing compensation in relationship to performance. Public disclosure would establish accountability for the organization's programs and its overall effectiveness in implementing them.

If management is to be held accountable, it in turn must have certain freedom of action and decision that does not now exist. This includes responsibility in determining priorities for operation and investment, responsibility for purchase, sale, and pricing of commodities, responsibility for hiring and firing personnel, and providing rewards in relationship to the role and performance of each individual. Each division manager thus should have a great deal more autonomy than currently exists, but also should be held accountable.

An additional problem facing the NACF is the weak system of supporting cooperatives in rural areas. Many of these are very small, non-viable units. A program for reduction in numbers and consolidation of Primary cooperatives has been successful and should be continued. In addition to the problem of improving the organizational pattern of local cooperatives is the problem of inadequate operating and control procedures.

Local cooperatives should not view their role as serving the NACF or government. Their purpose is to serve the interests of farmers. It is crucial at this level that managers understand the objectives of their organization, and that procedures are developed to hold them responsible for success in achieving these objectives; that they have flexibility and freedom in developing programs for achievement of objectives and that rewards are paid commensurate with their success.

¹ As a corollary to establishing a comprehensive accounting and audit system, the organization should be freed from most of the various special audits that currently are done by various governmental units.

An example of what should not be done exists in the case of retail outlets established at the Primary cooperative level. Most of these outlets are not operating profitably, yet they have been established entirely at the volition of the national organization. Local managers have had no voice in the decision. This kind of decision should not be made without the concurrence of local management under conditions where local management is held responsible for successful operation of the cooperative.

Ideally, local cooperatives should be run by local farmers, democratically elected to a board of directors and the manager should be responsible directly to this board. This kind of organization should be attempted whenever it is feasible, starting first among specialized cooperatives that serve large, more highly educated farmers.

An important component of the organization's operation that needs review is its role in providing information to farmers. Currently a large guidance staff at the national, regional, and local level is maintained. This staff appears to concentrate primarily on developing plans of operation and in providing guidance for lending operations. Very little is done by way of assembling and providing technical information for farmers in connection with the inputs supplied, advising them on farm management problems in connection with credit provided, or of developing procedures for lending based on analysis of farm plans and budgeting of repayment capacity. Farmers need credit when they buy inputs and an important service to farmers could be performed by helping them to work out production and repayment programs associated with credit and at the same time advising them on technical questions related to use of the inputs. This kind of program should not be handled entirely with organization personnel. Rather, the potential for providing leadership and for involving the ORD advisory service is great and NACF should seek to be more effective in this area.

The NACF also needs a research program, it needs an outlook program, and it needs to collect statistics. These activities as currently carried out, however,

should be reoriented. Currently, a general outlook section is maintained in NACF but primarily used by the Ministry of Agriculture. For example, a continuous monthly survey on prices, wages, and public charges in rural areas has been conducted since 1965 to provide data for estimating long term and short term price changes and for constructing a parity index for products.

This kind of work is important, but it should be done in the Ministry of Agriculture. The program in NACF should be specifically oriented toward information required to more effectively plan its own operation. This would include such things as farmer credit needs and debt repayment capacities, analyses needed to more effectively plan year to year purchases and inventory requirements on farm supplies, analyses of MAF outlook information for internal planning, and information needed to plan investment and expansion programs.

The final and basic question that has to be asked is whether this organization, if appropriately motivated and structured, can effectively handle the joint roles of successful commercial operation in agricultural markets and supply industries, and banking, and also serve as a vehicle for long term agricultural development. As indicated above, there should at a minimum be effective segregation of the organization's various activities. Banking, credit, and insurance should not be co-mingled with commercial activities and it would appear advisable ultimately to institutionally separate these activities from the marketing and farm supply businesses, at the national level. If this were done, a great deal of coordination would be required. The banking system should be exclusively an agricultural bank with restrictions against using funds for any other purposes. It should be charged with the responsibility of providing capital for farmers and for farm-related cooperatives, including the NACF and its affiliated cooperatives.

It does not appear that the bulk of farm business activities of NACF are well enough established at this time that they can survive without subsidy. Because of the intermingling of the organization's activities and the inter-relationship with government price control

and input distribution programs, there is no clear way of knowing how much subsidy is required.

Along with a movement toward separation of functions at the national level, direct control by NACF of local cooperative should be reduced. The ultimate goal, as conditions permit, would be to establish independent farmer-owned county and local cooperatives that would be supported, but not controlled, by both a national agricultural bank and a national cooperative organization. Because farmers need a coordinated set of services, including credit, farm inputs, information, and marketing services, the system of local cooperatives should provide all of these. The specific functions handled by individual cooperatives should vary, depending upon conditions in each area.

In the past the NACF has concentrated its lending and farm business activities on short term credit, supplying purchased inputs and marketing products. It is now being proposed that NACF engage in major coordinated programs for capital investment in agriculture and market facilities to expand production and provide the associated market facilities that would be needed. The proposal includes about 6,000 farms and is aimed at increasing food production in order to improve self-sufficiency, expand exports of some products, and improve rural incomes. The commodities included in the proposed program are sericulture, mushrooms, grapes, peaches, apples, pears, poultry, and pigs. Funds would be made available to farmers for production purposes and to cooperatives to improve and expand marketing facilities.

Implementation of this program would add a new dimension to the organization's planning and financial requirements. It could also greatly expand the business volume of local cooperatives, both in the marketing and farm supply activities. If adequately planned, in the light of domestic and international demand conditions, and if analysis is sufficient to avoid major errors in investment, this kind of program would be consistent with an effort to expand and improve the commercial and farm advisory activities of the NACF and its associated cooperatives. But, before these kinds of programs are

undertaken, it is imperative that the organization's internal philosophy and operational procedures be re-directed toward programs designed to improve the incomes and welfare of farmers, that it ceases to serve as a tool for implementing policies that farmers view as inimical to their interests, and that it reorganizes, consolidates and upgrades the quality of its present operations to attain a sound base from which to launch these new activities.

The above discussion suggests the need for NACF to establish:

- 1) a realistic sense of balance among its functions;
- 2) an efficient working relationship between policy determination and the operational programs;
- 3) a clear realistic system of economic accountability directed toward its stated purpose;
- 4) a corrected balance between top-down management influence and bottom-up influence;
- 5) the development of a positive image to the agricultural sector based on performance and sound economic contributions;
- 6) the introduction of an incentive system based on merit and superior professional performance which show tangible economic results;
- 7) the development of an independent and competent voice for the farmer and agricultural sector which is politically articulate and responsible.

The following is a possible organization for NACF. It is one of several models which could be chosen and attempts to take into consideration the economic, social, and political factors affecting the development of NACF over the next 1½ decades.

It is directed toward building a vigorous, professionally-competent agricultural organization with an

economically-competitive production and marketing performance, and with a somewhat independent politically-responsible cooperative organization.

NACF should be divided into four operating divisions -- finance and credit division, insurance division, product marketing division, and input supply division -- and a number of staff support departments to include such activities as research, general administration, planning and program development, membership and public relations, and others as appropriate. Each division should be headed by a vice president answering to the executive vice president. Figure 10 shows the organizational structure.

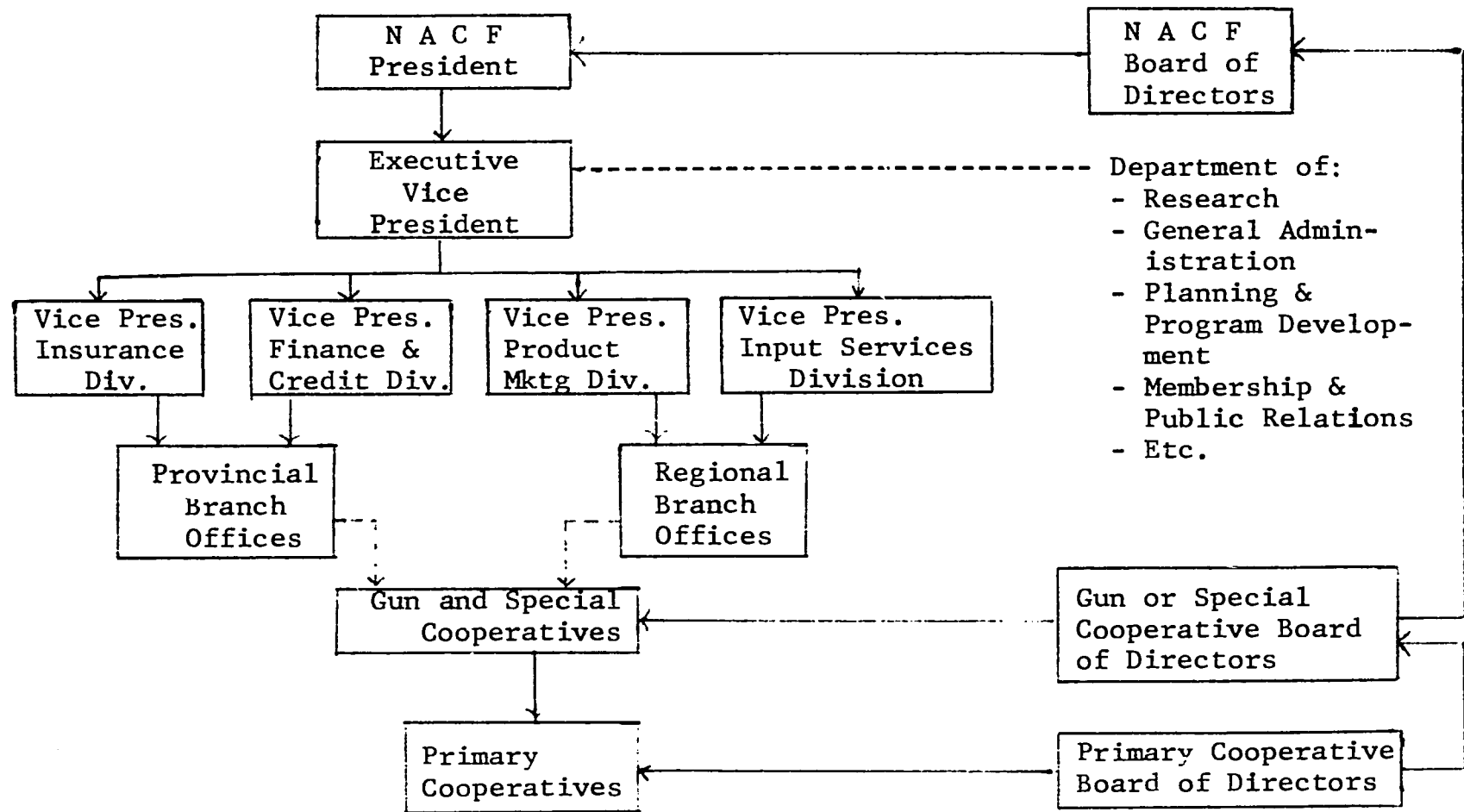
Finance and Credit Division

This division would be responsible for all of the credit and banking, mutual savings, and guidance activities. It would be responsible for the procurement and management of funds from all sources including member deposits, government funds, Bank of Korea funds, and loans and grants from international donor agencies related to the banking and credit operation. Delivery of timely and adequate credit to farmers through member coops would be a primary function. This would include establishment of a universal system of simple criteria for the determination of credit needs and eligibility so that funds and financial services are available to farmers for their operational advantage.

Closely related to the delivery of credit is the guidance function. Farm management advisory services to help farmers in procuring and using credit to their business advantage and organizing their farm resources for maximum profit should be a major component of the guidance function.

As credit and banking become more commercialized in the agricultural sector, the mutual savings program will become more important. One of the functions of this division should be the promotion of a vigorous mutual funds program for deposits and usage among the members.

Figure 10:--An Alternative NACF Organization Structure



This division should relate professionally to all financial circles external to NACF and relate fiscally to the comptrollers of the product marketing, input supply and insurance divisions. The functions indicate that the Vice President should be a professional, financial executive with extensive experience in banking or corporate finance.

This division should have a network of provincial branch offices which in turn provide support for the credit, guidance, and mutual savings functions (and insurance functions as discussed below) of the Gun and Special cooperatives. At the Gun and Special cooperative level, these functions should be carried out in the same physical location as the functions of the marketing and input services divisions, but with a clear separation of personnel responsibility and accountability.

Insurance Division

This division should be responsible for establishing and promoting a comprehensive insurance program for the delivery of insurance services to members. The Vice President should be an experienced insurance company executive. The insurance division network to the local levels should tie in with the finance and credit division network and use the same channels and offices, but different personnel and separate accounting.

Product Marketing

This division should include among its functions product marketing, storage, processing and transportation, and technical marketing services. It should develop and execute an effective marketing program for agricultural products supported by handling, warehousing, and transportation facilities. It should identify and develop the necessary internal infrastructure, including communication of up to date market information and other facilities necessary to compete as a part of a modern and efficient marketing system. Developing new markets and exploiting market potentials, both domestically and abroad, should be a major role.

The functions of this division dictate that the Vice President in charge be an effective commercial business executive with considerable sales and commercial experience in agriculture. He must understand the concepts of costs and profit accountability. He must be able to conceptualize the many functions and operations under his control as a total system and to analyze its performance in that framework.

The marketing division (along with the input services division as discussed below) should establish regional centers as necessary to service the Gun and Special cooperatives. Primary and Myon level cooperatives would be serviced as presently through the Gun cooperatives.

Input Services Division

This division should develop and execute a highly competent and professional purchasing and distribution program for modern inputs, including fertilizer, pesticides, equipment and so forth, to deliver quality inputs to farmers when, where, and in the amounts needed at competitive prices. As an auxiliary role, this division should provide farmers with market information and technical information and services about the products and inputs handled. The government should not give NACF any special monopoly considerations in input supply markets and private competition should be actively encouraged through appropriate policies.

The Vice President in charge should be a capable industrial business executive with marketing or commercial experience. He must understand cost and profit accountability and be able to apply systems concepts to analyze performance of division operations.

Along with the product marketing division, the input supply division should establish joint regional centers to service Gun and Special cooperatives. Depending on the area needs, some regional centers may be more heavily weighted to product marketing, others to input supply.

Staff Support Departments

In addition to the four operating divisions with "line" responsibilities, several "staff" support departments are recommended. Heads of departments should be directly responsible to the executive vice president. Among the list of departments which should be established or reorganized are research, general administration, planning and program development, and membership and public relations. Others should be established as appropriate.

The research function should include the gathering and analysis of agricultural and business data for use by the "line" divisions. The general administration function should include overhead logistics support for the organization and personnel administration and management to recruit, retain, and reward on the basis of merit, competent and professional personnel for the national level "line" divisions. The planning and program development department should be responsible for intermediate and long-range planning and program development within the broad policy guidelines established by the NACF board of directors and top NACF officials. It should establish and maintain effective relationships with the Ministry of Agriculture and Forestry and other agencies. It should also be responsible for presentation of convincing arguments to gain equitable support for national agricultural programs and priorities. The membership and public relations department should be accountable for membership activities and should be responsible for demonstration and publication of the successes and efficient operations of farm cooperatives.

Organization of the Gun, Special, and Primary Cooperatives

Each level should elect their proportionate number of representatives at a general meeting for a three year term. These representatives, in turn, elect the respective boards of directors. The boards of directors elect their chairman (who also serves as president) for a three year term. The boards of directors employ their general manager and hold him accountable for the efficient and profitable operation of their cooperative. The general manager should be a competent business

operator and a proven organizer. He should be knowledgeable on costs, systems, and fiscal accountability. He should be held responsible for growth and increased efficiency of the operation. His evaluation and reward should be based on the growth, profitability, and service reputation of the cooperative he is employed to manage.

At the national level the administrative board should be changed to function as a board of directors. The current administrative board includes members who are important politically, but who are not functionally involved or professionally committed to NACF. At least part of the national board of directors should be elected from the board delegates at the provincial and regional levels.

The NACF Cooperative College

The NACF Cooperative College is encouraged to continue or to consider the following emphasis in their three major programs.

Two-Year Program

Recruit young people from the farm economy who are interested in returning to agricultural vocations upon graduation.

Train and develop young people with areas of special agricultural competence, i.e., an agricultural vocational identity.

Emphasize a core subject areas of economics, finance and accounting.

Advise students during their two-year program regarding their careers and their relevant placement alternatives within the agricultural community.

Encourage the students' continuing relationship to the college after graduation to sustain their continuing education and to use the resources of the college.

Many of regional or county employees have little interest or background in the agriculture sector. It is necessary to "grow" your own cadre of farm experienced and interested young people. The manpower drain by urban migration and armed forces service is large and increasing. The chances of getting a percentage to return with sound motivation to the agriculture vocation after training at the college are greater if recruitment focuses on these young people groups. It would be advantageous if these young people's interest could be stimulated by specialized training in the agricultural sciences so that they could have some genuine identification within agriculture.

Inasmuch as the Cooperative College subsidizes the students' tuition and lodging and NACF assures them employment upon graduation, counseling throughout the two years of training, meaningful placement pointed toward continuing experience in their specialty, and an active alumni-college relationship would give a longer and greater return on the NACF investment in them. (It is encouraging that the number of applicants taking the open competitive examination has approximately doubled this year.)

Special Programs

Develop programs and resources for all levels of training needs of NACF personnel to assure a reservoir of professional talent.

Consider special resources from government agencies, industrial business executives, political leaders as lecturers.

Consider intensive training programs in management, finance, etc., such as a seminar in finance-accounting for non-financial managers.

Professional career development is the primary responsibility of the individual employee. However, the organizational environment can be conducive to initiating self improvement. With the posting of job opportunities and with publicity of promotions and advancements, an alertness develops to the possibilities and incentives

for self improvement. Professional courses at various levels of sophistication encourage the employee to test the possibilities. Supervisors can counsel their subordinates as to their availability and relevance to their job performance.

Farmers' Programs

Develop programs that will give farmers economic principles and basic accounting as usable skills.

Develop presentations to broaden his perspective of the total economy and the critical significance of agriculture.

Expose the farmers to an exchange with competent policy makers for their mutual advantage.

Coordinate the work of other organizations with presentations from ORD, Home Affairs, etc., which have programs in their communities.

In consideration of the role which the college can play regarding change among the farmers, it would seem that the location and prestige of the Cooperative College could be developed as a positive farmer identity. The farmer could be introduced to the resources available to them through the college, NACF, university agricultural research, ORD, etc. He could improve his basic knowledge for more effectively working with ORD and for introducing new methods and for evaluating them. He could be stimulated to becoming a more competent businessman.

The program offers the possibility of broadening the farmers' horizons and perspectives in the policies and programs of NACF and the national economy.

Programs in the United States, such as Farmers' Week, Agricultural Exhibitions, Produce and Livestock Competition in Production and Quality, have enjoyed success in demonstrating to farmers the value of scientific changes in soils, crops, mechanization, etc. The Cooperative College might consider sponsoring such occasions jointly with ORD.

Personnel Policy

Any organization is only as good as the personnel it employs. As an aid in formulating general personnel policy and providing for personnel development the following guidelines should be given careful attention.

Identify clearly the purposes, objectives, and programs for their implementation as employees of NACF.

Identify and develop professional career programs for personnel consistent with the purposes and objectives.

Reinforce the career development program with meaningful merit recognition.

Develop and promote a significant incentive system throughout the organization, based upon performance.

Develop promotional means to improve the image of agriculture at large and of NACF in particular.

Recruit and train competent professional and leadership talent for all levels of the organization.

Develop the concept of "managers" throughout the organization who are specifically accountable for the efficient utilization of all resources and for increasing profitability.

Summary

In summary with respect to the NACF organization, every organization has the responsibility to IDENTIFY its purpose, objectives, and programs for itself, its members, and its publics. The purpose, objectives, and programs must be unique to this organization and consequently performed more effectively and efficiently by this organization than any other agency. If not, its validity is in question and its survival in doubt.

Every member of the organization from the president to the newest constituent should be able to IDENTIFY his

role and contribution toward the achievement of the organization's objectives. Consequently, every member of the organization should have the OPPORTUNITY TO PARTICIPATE in knowing the objectives, initiating, developing and innovating action toward achievement, and exercising responsibility for himself and the organization. The organization has a major responsibility in establishing the climate to assure individual initiative, rationality and integrity in the system and in establishing the criteria for individual accountability.

Consequently, every member should have an EQUITY in the organization -- a fair return on his investment of life, time, education, experience, initiative, energy, and loyalty, which is directly related to the success of the organization. To the degree the members administer or manage the organization's resources effectively, the members should share EQUITABLY in its success and returns. Its total effort should be directed toward assuring the optimum EQUITY to the government, to its members, and to the consumers, by rendering efficient, competitive, and profitable service.

CHAPTER IV

EXPANSION CAPACITY OF NACF - PROJECTIONS

The KASS report projects several-fold increases in the demands on the agricultural sector product and input marketing system and requirements for credit in the next 1 1/2 decades. With an approximate three-fold increase in both the volume of agricultural product marketings, and in the use of purchased inputs and services and commensurate increases in capital requirements much more reliance will need to be placed on the commercial sector for these goods and services. Huge additional investments in NACF would be required to handle these increases and it is not recommended for NACF to attempt expansion on this scale. Both NACF and the government would be in more viable positions if policies were designed and executed in such a way as to promote additional private sector competition at local levels.

Increased efficiency and volume expansion is possible, however, from present operational levels. The following projections are based only on primary cooperative data and do not include the business performance of the County and Special cooperatives. They are nevertheless instructive in that they indicate relationships between some of the important data variables of use to NACF management at all levels in assessing business performance. Much more detailed analysis along these lines should be done. Six types of projections have been made within the context of the KASS findings and under the assumption that the cooperatives will attempt to expand and remain competitive. All monetary projections are in 1970 won.

The KASS study utilizes a 3 geographic region breakdown of Korea. They are the single crop paddy region consisting of Kyonggi-Do and Chungchong-Namdo, the double crop paddy region consisting of the four southern provinces - Cholla-Pukto, Cholla-Namdo, Kyong-sang Pukto, and Kyongsang-Namdo, and the Upland region -- Kangwon-Do, Chungchong-Pukto, and Cheju Island. Selected data on Primary cooperatives were collected on this regional basis and provide some useful insights for making the following projections. This data is shown in Table 11.

Table 11.--Selected Data for Primary Cooperatives, 1970

Item	: Double : Crop : Paddy	: Single : Crop : Paddy	: Upland	: Total
Number of Cooperatives.....	3,634	1,389	836	5,859
Number of Members (000).....	1,359	522	342	2,223
Average Per Cooperative.....	374	376	409	379
Volume of Business (Mil.W)....	9,934	9,479	2,857	22,270
Volume Per Cooperative (000 Won).....	2,734	6,824	3,417	3,801
Volume Per Member (Won).....	7,310	18,159	8,354	10,018
Membership Investment (Mil.W).....	3,071	1,811	810	5,692
Average Investment Per Member (Won).....	2,260	3,469	2,368	2,561
Number of Salaried Workers.....	2,489	1,191	894	4,574
Volume Per Worker (000 Won)...	4,119	7,959	3,195	4,869
Net Profit as Percent of Volume of Business.....	1.07%	.43%	1.64%	.87%
Number of Cooperative Re- porting Loss.....	241	87	74	402
Total Assets (Mil.W).....	9,778	4,809	3,158	17,745
Percent of Fixed Assets.....	43.3%	48.2%	41.0%	44.2%
Net Profit (Mil.W).....	105.8	41.1	46.9	193.8
Net Profit Per Cooperative (000 Won).....	29.1	29.6	56.1	33.1
Net Profit Per Member (Won)...	78	79	137	87
Percent of Marketing, Pur- chasing, & Processing volume on consignment.....	63%	72%	20%	62%

Profit Rates

The first set of projections deal with improving direct benefits to farmer members of cooperatives. The net profit of a cooperative is such a measure. The amount of net profit accrues to the member in a recognized form of cash or securities. Admittedly, profit in cooperatives cannot be considered the only measure of service to members, because policy or competition may cause the organization to keep its margin minimal. Such a situation could mean that members receive benefits currently in the form of more favorable prices rather than awaiting some kind of profit distribution at the end of the year. The level of actual profit in the Primary cooperatives in 1970 was calculated to be about .87% of the won volume of business. On the basis of the average volume per member, each member would receive an additional 87 won income in some form. Table 11 indicates the variation in the rate of profit and volume per member between areas. The additional income per member from cooperative profits would be 78 won in the double crop paddy area, 79 won in the single crop paddy area and 137 won in the upland area.

A possible projection within the present policies of NACF and the member cooperatives would be to merge half of the primary cooperatives that showed a deficit in 1970 with other more viable organizations. Such a procedure could increase the profit rate with the same total volume to .94% in the country and 1.28%, .53% and 1.94% in the three respective areas.

Two points are clear from the above discussion. First direct profits per average member are extremely low. Thus measures to increase average profit per member by any significant amount are likely to have limited success. Second, on the basis of the effect on profit rate and average profit per member, merger of the unprofitable cooperatives is not worthwhile even though merger can provide greater viability on an individual cooperative basis.

Capital Needs

A second projection deals with the capital needs when there are changes in won volume. The value of total assets represents the truest measure of capital requirements for an organization since such a figure is reflected by the amounts supplied by creditors of various types (formal loans or open trade accounts to the cooperative) and by members. The present ratio of volume to total assets is 1.26:1. This would mean that if assets were increased 10% and the same ratio prevails, volume could be increased by 2.3 billion won. As a projection, by 1975 the national average ratio could conceivably be raised by improved guidance, etc., to 2.3:1. Such a ratio did prevail in 1970 for the average of the Primary cooperatives in one province (Kyeonggi Do excluding those in Seoul), so it seems quite possible on a nationwide basis by 1975. Such a modified ratio would mean that the volume of business could be increased by 83% from 1970 levels without any additional amounts in total assets. With the revised ratio, a 10% increase in total assets could handle a 100% increase in volume of business.

The part of the total capital that is of most concern to farmer members is the membership investment of various forms -- paid-in, retained, etc. The same procedure was used as with total assets. The 1970 ratio of volume of business to membership investment was 3.9:1. A 10% increase in volume would call for a 10.3% increase in member investment, or 589 million won. The projected ratio for 1975 was 7:1, observed in one province (Kyonggi-Do excluding those in Seoul) in 1970. With no change in member investment, volume could be increased by 79%. A 10% increase in member investment would permit a 97% increase in volume.

Manpower Needs

In addition to capital needs, manpower needs, especially the trained and semi-trained salary workers, are important in handling increased volumes. The relationship of volume to salaried worker in 1970 was 4.87 million won per worker. Therefore, with this relationship, a 10% increase in volume would require 457 additional workers in the country. A projected relationship for

1975 is 12.8 million won per worker -- already existing in one province (Chungchong-Namdo) in 1970. With the projected relationship applied nationwide, projected volume could be about 2.63 times present volume with no additional numbers of salaried workers. A 10% increase in workers or 457 could handle a volume of about 2.89 times the present volume.

Consignment vs. Cash Transactions

A possible procedure for increasing volume of business is to decrease the proportion amount of consignment buying and selling and replacement by outright purchase and sale in the Primary cooperatives. Outright purchase is the method most commonly used by commercial channels. Farmers are usually short of cash at harvest time and therefore are not willing to place commodities on consignment since this means a delay in final payment. Many are not willing to wait even if prices might be somewhat higher for produce marketed. There are three major problems with outright purchase as compared with consignment procedures.

1. More capital in the form of liquid assets is required by the marketing agency, the cooperative.
2. More risk is involved with the possibility of price change between purchase and sale by the cooperative.
3. Related to 1 and 2, more highly skilled personnel are needed to handle outright purchase and sale.

The available data in general indicate a minimal increase in capital needs if more volume on an outright purchase basis is acquired or shifted from consignment to outright purchase. It was assumed for this estimate that nearly all of the adjusted liquid assets were needed

in handling the outright purchase volume. The ratio of outright purchase and sale volume of marketing, purchasing and processing to the adjusted¹ liquid assets was .87 in the double crop paddy area, where the percent of outright purchases was 37%. In the single crop paddy area these two figures were 1.61 and 28%. For the upland area they were 1.90 and 80%. Although commodity and location differences may have important effects that are not identified, the upland Primary cooperatives that have the largest percent of their combined volume in outright purchase have the highest ratio of volume, excluding credit, to adjusted liquid assets.

Applying the same ratio of 1.9 (marketing, purchasing and processing volume to adjusted liquid assets) as prevailed in the upland cooperatives in 1970, to the entire country and to the double paddy area and the single crop paddy area gave the results in Table 12. It indicates that the projected ratio would actually decrease slightly the amount of liquid assets needed in the double crop paddy area (and in the country as a whole), even when outright purchase is increased to 75% of marketing, purchasing and processing volume. The greatest increase in projections in the percentage of outright purchase operation was applied to the double crop paddy area, because that area in 1970 had the smallest volume per member of the three areas. (See Table 11).

Questions pertaining to the effects of more outright purchasing on price change risks and number of skilled personnel cannot be as readily documented as the capital needs. In spite of these difficulties, we feel that outright purchase and/or cash advances on consignment are necessary to appeal to more farmers and thereby to increase the cooperative volume of business.

1 The adjusted liquid assets were the liquid assets reported in Data for Management of Primary Cooperatives-7th, 1 Jan. 70 - 30 Dec. 70, less the estimated liquid assets involved in the loan business, which in turn were the amount of funds for mutual credit reported plus 2% available from members' owned capital.

Table 12.--Projections of Changes in Capital Needs with Increases in
Percent of Outright Purchase Volume of Primary Cooperatives

Region	1970				Projected 1975		
	(1)	(2)	(3)	(2)	(3)	(4)	
Double Crop Paddy Area.....	2.34	.87	37	1.90	75	286 less	
Single Crop Paddy Area.....	5.80	1.61	28	1.90	35	106 more	
Upland Area.....	2.39	1.90	80	1.90	80	0	
Total.....	3.21	1.22	38	1.90	57	180 less	

- (1) Ratio of marketing purchasing and processing volume to adjusted liquid assets.
(2) Ratio of MPP volume by outright purchase and sale to adjusted liquid assets.
(3) Percent of marketing, purchasing and processing volume handled by outright purchase and resale.
(4) Capital changes needed in adjusted liquid assets in million won.

Cooperatives, Members, Business Volume

The fifth projection deals with changes in numbers of Primary cooperatives, the numbers of members, and the changes in volume of business. Table 13 indicates the specific data. The expected changes in numbers of Primary cooperatives were derived as follows:

1. Between 1970 and 1975: the same percentage change by area as between 1965 and 1970.
2. Between 1975 and 1980; between 1980 and 1985: one-half of the percentage of Primary cooperatives showing losses in 1970 were applied to each successive year beginning in 1975. These resulting changes in numbers seemed to be in line with some of the proposals being planned by NACF.

The changes in total number of Primary cooperative members between 1970 and 1975 were also derived by the percentage changes between 1965 and 1970.

While there will undoubtedly be considerable changes in volume of business per member in the years ahead in both non-credit and credit functions, a most conservative estimate has been made in deriving the data in Table 13. No change in total non-credit volume was assumed. These data were applied to the slightly smaller numbers of members and to the greatly reduced numbers of Primary cooperatives. If present merger plans are successful, the actual decrease in numbers of Primary cooperatives will be even greater than projected.

Projected changes in data relating to the special horticultural and livestock cooperatives are difficult without further study of the expected future changes in these two industries. However, some merging of Primary cooperatives with the Special cooperatives will likely be encouraged where their members and trade area overlap.

Table 13.--Projections of Number of Primary Cooperatives, Number of Members, Average Non-Credit Volume of Business,*
1970, 1975, 1980, 1985, NACF.

Item	Year	Double Crop Paddy	Single Crop Paddy	Upland	Total
Number of Primary Cooperatives.....: 1970					
.....: 1975		3,634	1,389	836	5,859
.....: 1980		1,170	430	276	1,876
.....: 1985		1,005	378	219	1,602
.....: 1985		863	325	174	1,362
Members of Primary Cooperatives (1000s).....: 1970					
.....: 1975		1,359	522	342	2,223
.....: 1975		1,346	517	335	2,198
Average Number of Members Per Cooperative.....: 1970					
.....: 1975		374	376	409	<u>Average</u> 379
.....: 1975		1,122	1,202	1,216	1,172
Average Non-Credit Volume Per Cooperative (1000 won).....: 1970					
.....: 1975		2,427	6,539	2,826	3,459
.....: 1975		7,301	21,422	8,684	10,644
Average Non-Credit Volume Per Member (won).....: 1970					
.....: 1975		6,489	17,398	6,900	9,114
.....: 1975		6,555	17,574	7,041	9,220

* Non-credit volume is the reported volume of marketing, purchasing and processing, but excludes the loans outstanding.

Effects of Rice Production and Fertilizer Use Changes

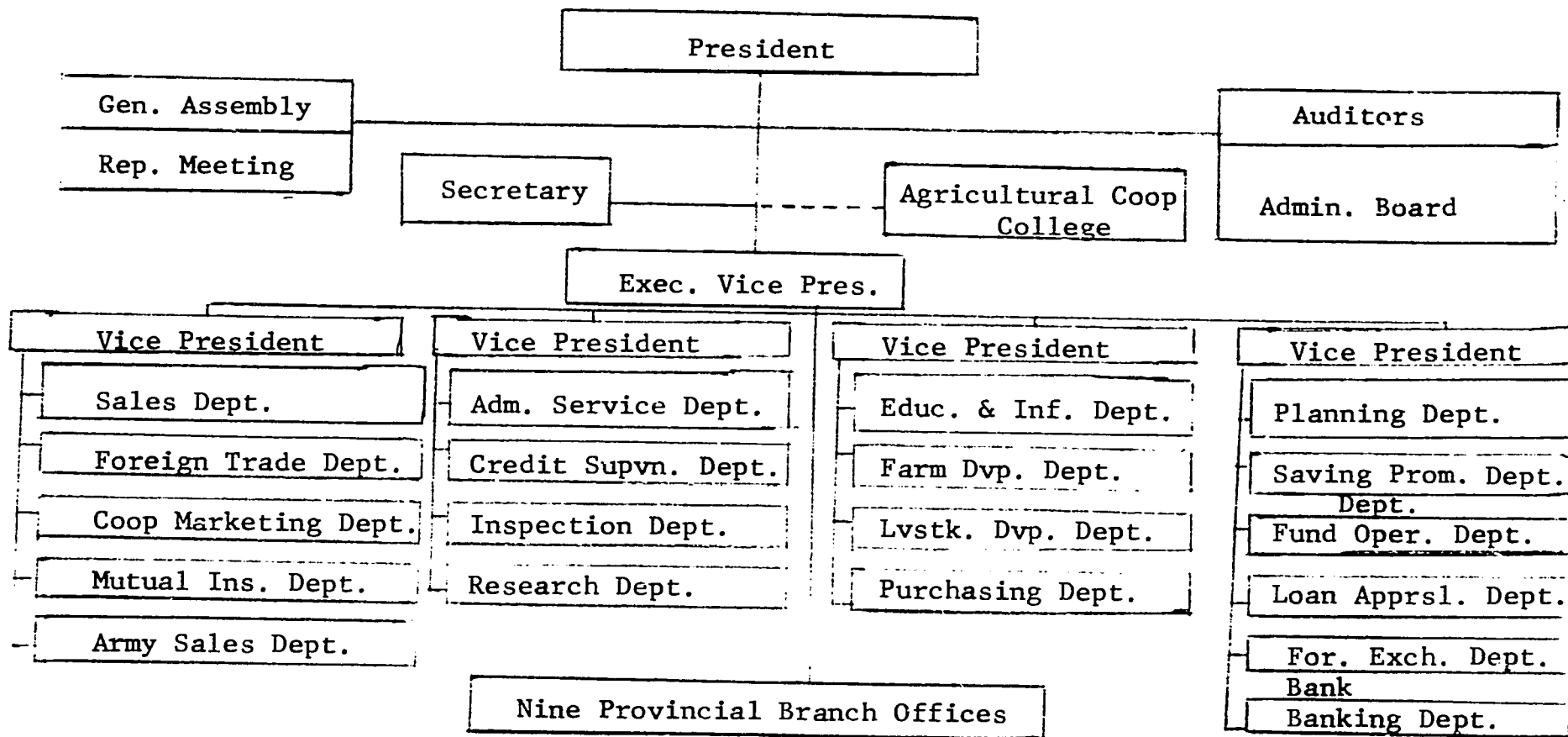
The sixth projection dealt with the effect that proposed changes (suggested in 11/71) in rice production and use of fertilizer between 1970 and 1975 would have on the capital needs and manpower needs of cooperatives. Rice marketing accounted for 25% and fertilizer sales 27% of the total volume of Primary cooperative business in 1970.

A proposed increase of 18% in rice production, with the same share of the market as in 1970, would have the effect of increasing the total combined volume (in 1970 won) for Primary cooperatives by 4.5%. A proposed increase of 36% in the use of fertilizer would have the effect of increasing the combined volume (in 1970 won) for Primary cooperatives by about 10%. Referring back to projections of capital and manpower needs above, the Primary cooperatives could handle the increased volume with present capital and present salaried workers if the desired ratios are achieved.

Summary

The above projections indicate that the business volume of Primary cooperatives could expand to almost double by attaining, nationwide, the efficiencies presently found in selected areas of the system. The first constraint to limit volume would be membership investment at a volume increase of 79%, the second would be value of total assets at a volume increase of 83%, and the third manpower at a volume increase of 163%. By shifting from consignment to cash purchase, credit needs decrease, thus lifting to some extent the membership investment and total asset constraints indicated above.

APPENDIX TABLE 1
ORGANIZATION OF NATIONAL AGRICULTURAL COOPERATIVE FEDERATION



(As of Dec. 15, 1971)

APPENDIX TABLE 2.--Balance Sheet of NACF 1967 and 1970¹

	1967	:	1970
----- Million Won -----			
<u>Assets</u>			
<u>Credit and Banking</u>			
Cash in hand.....	1,158	:	2,974
Deposit in Bank.....	6,986	:	8,974
Securities.....	37	:	52
Loan to Gun Coop.....	11,267	:	42,356
Banking Loan.....	8,968	:	16,540
Budgetary Loan.....	9,646	:	18,916
Foreign Loan.....		:	3,638
Inter-office.....	3,058	:	
Miscellaneous.....	3,680	:	8,295
<u>Subtotal</u>	44,800	:	101,498
<u>Mutual Insurance</u>			
Securities.....		:	775
Deposit in Bank.....	1,140	:	1,945
Loan.....	175	:	2,029
Fixed Asset.....		:	606
Miscellaneous.....	95	:	149
<u>Subtotal</u>	1,410	:	5,504
<u>Business</u>			
Receivable & Advance in Payment.....	12,653	:	19,426
Credit on Consignment.....	723	:	8
Inventory.....	10,156	:	22,741
Fixed Asset.....	708	:	3,116
Dairy Asset.....	27	:	271
Miscellaneous.....	2,451	:	16,515
Receivable of the Previous Institution.....	370	:	290
<u>Subtotal</u>	27,088	:	62,367
<u>Total Assets</u>	73,298	:	169,369

1 December 31.

(continued)

APPENDIX TABLE 2.--(Continued)

	1967	:	1970
----- Million Won -----			
<u>Liabilities</u>			
<u>Credit and Banking</u>			
Deposit from Gun Coop.....	13,404	:	18,475
Deposit Received from Public.....	5,126	:	7,402
Borrowing from ROK.....	4,102	:	2,673
Borrowing of Business Fund.....	20,100	:	30,000
Borrowing from Government.....	19,228	:	56,658
Agricultural Credit Debenture.....	223	:	83
Inter-office.....		:	26,407
Miscellaneous.....	5,364	:	4,867
<u>Subtotal</u>	67,547	:	146,565
<u>Mutual Insurance</u>			
Reserve for Claim.....	161	:	880
Liability Reserve.....	1,233	:	6,331
Reserve for Special Contingency.....	189	:	512
Reserves for Divident to Policy Holder.....	251	:	1,385
Mutual Insurance Fund.....	121	:	107
<u>Subtotal</u>	1,955	:	9,215
<u>Business</u>			
Payable and Receipt in Advance.....	1,359	:	6,518
Liability on Consignment.....	542	:	726
Liability on Dairy Business.....	13	:	--
Miscellaneous.....	904	:	3,473
<u>Subtotal</u>	2,818	:	10,717
<u>Equity</u>			
Paid-in Capital.....	444	:	520
Capital Reserve.....	98	:	1,645
Profit Reserve.....	397	:	451
<u>Subtotal</u>	939	:	2,616
<u>Profit</u>	39	:	63
Total Liabilities.....	73,298	:	169,176

APPENDIX TABLE 3.--Consolidated Balance Sheet of Gun Cooperatives 1969 and 1970¹

	1967	:	1970
- - - - - Thousand Won - - - - -			
<u>Assets</u>			
<u>Credit</u>			
Cash on Hand and in Banks.....	18,322,585	:	30,247,000
Securities.....	339	:	39,000
Loan Portfolio (1) Short Term.....	9,746,041	:	37,818,000
Loan Portfolio (2) Medium & Long Term.....	6,015,860	:	28,449,000
Irrigation Loans.....	8,721,493	:	12,904,000
Miscellaneous Assets.....	1,646,126	:	2,148,000
Inter-office Accounts.....	(- 1,483,254)	:	26,762,000
<u>Subtotal</u>	42,969,190	:	138,367,000
<u>Insurance</u>			
Cash in Bank.....	--	:	--
Loans.....	85,904	:	2,126,000
Miscellaneous Assets.....	--	:	--
<u>Subtotal</u>	85,904	:	2,126,000
<u>Trading and Marketing</u>			
Account Receivable in Trade.....	9,261,569	:	14,133,000
Payments in Advance.....	87,670	:	392,000
Credit on Consignment.....	266,514	:	113,000
Inventories.....	9,433,988	:	21,629,000
Manufacturing Accounts.....	48,451	:	88,000
Miscellaneous Assets.....	1,416,619	:	4,275,000
<u>Subtotal</u>	20,514,811	:	40,630,000
<u>Fixed Assets</u>	2,429,829	:	7,360,000
<u>Total Assets</u>	65,999,734	:	188,483,000

1 December 31.

(continued)

APPENDIX TABLE 3.-- (Continued)

	1967	:	1970
- - - - - Thousand Won - - - - -			
<u>Liabilities</u>			
<u>Credit</u>			
Deposits.....	22,647,369	:	88,015,000
Advance from Government.....	5,759,583	:	16,441,000
Loans from Government.....	6,643,893	:	11,815,000
Agricultural Credit Debentures.....	1,795,000	:	1,521,000
(Irrigation) Borrowed Funds from Government.....	8,721,498	:	12,904,000
Miscellaneous.....	761,794	:	2,528,000
<u>Subtotal</u>	<u>46,329,137</u>	:	<u>133,224,000</u>
<u>Insurance</u>			
Liability Reserve (Statutory)			
Other Reserves.....	--	:	--
Insurance Funds.....	--	:	--
Miscellaneous.....	175,541	:	2,030,000
<u>Subtotal</u>	<u>175,541</u>	:	<u>2,030,000</u>
<u>Trading and Marketing</u>			
Accounts Payable.....	16,963,813	:	30,567,000
Receipts in Advance.....	77,768	:	124,000
Payable on Consignment.....	83,480	:	39,000
Miscellaneous Liabilities.....	952,690	:	17,296,000
<u>Subtotal</u>	<u>18,077,751</u>	:	<u>48,026,000</u>
<u>Total Liabilities</u>	<u>64,582,429</u>	:	<u>183,280,000</u>
<u>Capital</u>			
Paid-in Capital.....	631,290	:	1,061,000
Legal Reserve.....	385,364	:	745,000
Capital Reserve.....	252,629	:	3,018,000
Unappropriated Profits.....	148,027	:	350,000
Net Profits.....	(NA 73,847)	:	228,000
<u>Subtotal</u>	<u>1,417,310</u>	:	<u>5,402,000</u>
<u>Total Liabilities & Net Worth</u>	<u>65,999,739</u>	:	<u>188,682,000</u>

APPENDIX TABLE 4.--Profit and Loss Accounts of the NACF, 1967 to 1970

	1967	:	1970
<u>Income</u>			
Interest - Income.....	3,775,606	:	11,665,647
Profit on Sales.....	3,427,323	:	914,053
Earned Commissions.....	258,344	:	134,220
Income from Mutual Insurance.....	2,112,852	:	10,414,910
Other Income.....	1,753,521	:	7,303,415
<u>Total.....</u>	<u>11,327,646</u>	:	<u>30,432,245</u>
<u>Direct Expenditure</u>			
Interest Repayment.....	3,512,386	:	9,838,381
Direct Cost for Business Operation.....	4,642,580	:	8,486,201
Expenses for Mutual Insurance.....	1,891,106	:	9,925,489
<u>Total Direct Expenditure.....</u>	<u>10,046,072</u>	:	<u>28,250,071</u>
<u>Gross Profit.....</u>	<u>1,281,574</u>	:	<u>2,182,174</u>
<u>Less Overhead Expenditure</u>			
Wages, Salaries, and Bonus Expenses.....	661,367	:	1,372,777
Travel Expenses.....	64,509	:	97,735
Office Supply Expenses.....	158,948	:	201,800
Entertainment Expenses.....	41,603	:	76,449
Tax & Public Expenses.....	54,154	:	101,250
Maintenance Expenses.....	65,634	:	177,118
Depreciation of Fixed Assets.....	5,713	:	77,229
<u>Total Overhead Expenditure.....</u>	<u>1,051,928</u>	:	<u>2,104,358</u>
Profit on Business.....	229,646	:	77,816
Bad Debts & Subsidies to Members.....	141,053	:	--
Expenses Other Than Business.....	49,909	:	70,520
Income Other Than Business.....	--	:	55,888
Net Profit for the Period.....	38,684	:	63,184
Profit Carried Over.....	10,519	:	14,000
Unappropriated Profit for the Period.....	49,203	:	77,184
<u>Total.....</u>	<u>519,014</u>	:	<u>358,592</u>

APPENDIX TABLE 5.--Consolidated Profit and Loss Accounts of Gun Cooperatives,
1967 and 1970

	1967	:	1970
	Thousand Won		
<u>Income</u>			
Interest.....	5,691,894	:	17,037,225
Profit on Sales.....	484,827	:	638,362
Earned Commissions.....	521,819	:	5,220,753
Income from Mutual Insurance.....	1,658,617	:	5,387,840
Other Income.....	1,530,174	:	11,416
<u>Total.....</u>	<u>9,887,331</u>	:	<u>28,295,596</u>
<u>Direct Expenditure</u>			
Interest Payment.....	2,361,293	:	12,738,751
Direct Cost for Business Operation.....	2,001,682	:	3,324,860
Expenses for Mutual Insurance.....	1,453,204	:	4,999,388
<u>Total Direct Expenses.....</u>	<u>5,816,179</u>	:	<u>21,062,999</u>
<u>Gross Profit.....</u>	<u>4,071,152</u>	:	<u>7,201,787</u>
<u>Less Overhead Expenditure</u>			
Wages, Salaries and Bonus Expenses.....	2,498,634	:	4,738,754
Travel Expenses.....	303,595	:	440,590
Office Supply Expenses.....	558,318	:	841,129
Entertainment Expenses.....	157,305	:	273,857
Tax and Public Expenses.....	64,725	:	111,170
Maintenance Expenses.....	174,666	:	472,188
Depreciation of Fixed Assets.....	9,694	:	106,829
<u>Total Overhead Expenditures.....</u>	<u>3,766,937</u>	:	<u>6,984,517</u>
Profit on Business.....	304,215	:	220,290
Subsidies to Cooperatives & Write-offs.....	6,348	:	--
Expenses Other Than Business.....	224,020	:	368,254
Income Other Than Business.....	--	:	377,173
Net Profit for the Period.....	73,847	:	228,089
Profit Carried Over.....	74,180	:	--
Unappropriated Profit for the Period.....	<u>148,027</u>	:	

APPENDIX TABLE 6.--Loans Outstanding as of End of 1967 and 1970
Under Banking Funds, NACF

Purposes	31 December 1967 under 1 to		
	1 year :	5 year :	Total
I. Agricultural Loans			
Agriculture Production.....:	1,805 :	:	1,805
--Short Term Loans.....:			
--Medium Term Loans.....:			
--Sericulture.....:			
--Special Program.....:			
--Recovery from Disasters.....:			
--Livestock Loans.....:			
--Other Medium Term for Production.....:			
<u>Total</u>:	<u>1,805 :</u>	<u> :</u>	<u>1,805</u>
<u>Agriculture & Forestry</u>			
<u>Loans on Short Term to Institutions</u>			
--Other.....:			
--Irrigation.....:	117 :	:	117
--Seedlings.....:	1,318 :	:	1,318
--Mulberry Seedlings & Silk Worms.....:	648 :	:	648
--Tobacco.....:	162 :	:	162
--Ginseng.....:	32 :	:	32
--Livestock.....:	87 :	:	87
<u>Total</u>:	<u>2,364 :</u>	<u> :</u>	<u>2,364</u>
<u>Short Term Loans for Agricultural</u>			
<u>Products Collection</u>			
--Purchase of Cocoons.....:	1,119 :	:	1,119
--Purchase of Straw Goods.....:	18 :	:	18
--Others.....:	560 :	:	560
Short Term Rice Lien Loans.....:	1,045 :	:	1,045
Usuary Debt Settlement.....:	:	1,786 :	1,786

(Continued)

APPENDIX TABLE 6.--(Continued)

	31 December 1967 under 1 to		
	1 year:	5 year :	Total
--Medium Term Loans.....	:	:	:
Commercial Farm Short Term Loans.....	1,530 :	:	1,530
Subtotal Agricultural Loans.....	8,771 :	1,786	10,227
II. Fishery Loans (Short Term).....	1,347 :	:	1,347
III. Other Loans (Short Term)			
--Export Trade Loans.....	:	:	:
--General Commercial Loans.....	2,509 :	:	2,509
--Loans on Term Deposits.....	1,272 :	:	1,272
<u>Total</u>	13,569 :	1,786	15,355
<u>Purposes</u>			
	31 December 1970 under 1 to		
	1 year:	5 year :	Total
I. Agricultural Loans			
Agriculture Production			
--Short Term Loans.....	5,729 :	:	5,729
--Medium Term Loans.....	:	599	599
--Sericulture.....	:	9,067	9,067
--Special Program.....	:	2,025	2,025
--Recovery from Disasters.....	:	2,288	2,288
--Other Medium Term for Production.....	:	3,236	3,236
<u>Total</u>	5,729 :	17,215	22,944
<u>Agriculture & Forestry</u>			
<u>Loans on Short Term to Institutions</u>			
--Other.....	2,768 :	563	3,331
--Irrigation.....	67 :	:	67
--Seedlings.....	909 :	:	909
--Mulberry Seedlings & Silk Worms.....	600 :	:	600
--Tobacco.....	155 :	:	155

(Continued)

APPENDIX TABLE 6.--(Continued)

	31 December 1970 under 1 to		
	1 year:	5 year :	Total
--Ginseng.....			
--Livestock.....			
<u>Total</u>	4,439 :	563 :	5,002
<u>Short Term Loans for Agricultural</u>			
<u>Products Collection</u>			
--Purchase of Cocoons.....			
--Purchase of Straw Goods.....			
--Others.....	2,404 :	— :	2,404
<u>Total</u>	2,404 :	— :	2,404
Short Term Rice Lien Loans.....			
Usury Debt Settlement.....			
--Medium Term Loans.....	:	1,521 :	1,521
Commercial Farm Short Term Loans.....	9,224 :	— :	9,224
<u>Total</u>	9,224 :	1,521 :	10,745
Subtotal Agricultural Loans.....	21,796 :	19,299 :	41,745
II. Fishery Loans (Short Term).....	1,385 :	3,209 :	4,633
III. Other Loans (Short Term)			
--Export Trade Loans.....	1,830 :	— :	1,830
--General Commercial Loans.....	15,090 :	— :	15,090
--Loans on Term Deposits.....	8,339 :	— :	8,339
<u>Total</u>	45,440 :	22,548 :	70,988

(Continued)

APPENDIX TABLE 6.--(Continued)

Purposes	1967			
	Within:	1-5	:	Over 5: Total
	a year:	yrs.	:	:
<u>Counterpart Fund</u>				
--Agri. Production.....	1,939	:	:	1,939
--Agri. Medium Term.....	:	1,210	:	1,210
--Agri. Modernization.....	:	317	:	317
--Ri-Dong Coop Business.....	408	174	:	582
--Special Coop Business.....	322	138	:	460
<u>Subtotal</u>	2,669	1,839	:	4,508
<u>Budgetary Operation Fund</u>				
--Agri. Production.....	:	2,381	:	2,381
--Agri. Main Production Area.....	:	:	:	:
--Livestock.....	:	374	:	374
--Feed.....	146	:	:	146
--Roof Improvement.....	:	134	:	134
--Rural Development.....	:	132	:	132
--Forestry.....	:	40	:	40
--Ginseng.....	:	165	:	165
--Tobacco.....	:	:	:	:
--Agri. Price Stabilization.....	:	:	:	:
--Japanese Property Claim.....	:	:	:	:
--Foreign Loan.....	:	:	:	:
<u>Subtotal</u>	146	3,226	:	3,372
<u>Pension Fund</u>				
--Agri. Production.....	:	35	:	35
--Roof Improvement.....	:	45	:	45
--Special Coop Business.....	:	:	:	:
<u>Subtotal</u>	—	80	:	80

(Continued)

APPENDIX TABLE 6.--(Continued)

Purposes	1967			
	Within: a year:	1-5 years	:	Over 5: Total
<u>Irrigation Fund</u>				
--Fixed Term Loan.....	:	3,747	:	: 3,747
--Loan in Installments.....	:		:	: 4,200
<u>Subtotal</u>	—	<u>3,747</u>	:	<u>4,200</u> : 4,200
Grain Management S/A.....	:	75	:	: 75
Monopoly S/A.....	:	1	:	: 1
Warehouse.....	:		:	: 129
<u>Subtotal</u>	—	<u>76</u>	:	<u>129</u> : 205
<u>Total</u>	2,815	8,968	:	4,329 : 16,112
<u>Total Banking Fund</u>	3,569	1,786	:	: 15,355
<u>GRAND TOTAL</u>	6,384	10,754	:	4,329 : 31,467
<u>Purposes</u>				
<u>1970</u>				
	Within: a year:	1-5 years	:	Over 5: Total
<u>Counterpart Fund</u>				
--Agri. Production.....	9	:	:	: 9
--Agri. Medium Term.....	:	1,177	:	: 1,177
--Agri. Modernization.....	260	310	:	: 570
--Ri-Dong Coop Business.....	100	152	:	: 252
--Special Coop Business.....	:		:	: 369
<u>Subtotal</u>	—	<u>1,639</u>	:	<u>2,008</u>
<u>Budgetary Operation Fund</u>				
--Agri. Production.....	:	2,940	:	: 2,940
--Agri. Main Production Area.....	:	4,070	:	: 4,070
--Livestock.....	:	3,249	:	: 3,249

(Continued)

APPENDIX TABLE 6.--(Continued)

Purposes	1970			
	Within:	1-5	Over 5:	Total
	a year:	years		
--Feed.....	846	:	:	846
--Roof Improvement.....	:	204	:	204
--Rural Development.....	:	208	:	208
--Forestry.....	:	539	:	539
--Ginseng.....	:	324	:	324
--Tobacco.....	:	211	:	211
--Agri. Price Stabilization.....	1,931	:	:	1,931
--Japanese Property Claim.....	:	69	:	69
--Foreign Loan.....	:	:	3,791	3,791
--Fertilizer.....	:	139	:	139
<u>Subtotal</u>	<u>2,777</u>	<u>11,953</u>	<u>3,791</u>	<u>18,521</u>
<u>Pension Fund</u>				
--Agri. Production.....	:	20	:	20
--Roof Improvement.....	:	7	:	7
--Special Coop Business.....	—	43	—	43
<u>Subtotal</u>	—	70	—	70
<u>Irrigation Fund</u>				
--Fixed Term Loan.....	:	:	1,585	1,585
--Loan in Installments.....	—	—	12,079	12,079
<u>Subtotal</u>	—	—	13,664	13,664
Grain Management S/A.....				
Monopoly S/A.....				
Warehouse.....	—	—	109	109
<u>Subtotal</u>	—	—	109	109
<u>Total</u>	3,146	13,662	17,564	34,372
<u>Total Banking Fund</u>	48,440	22,548	:	70,988
<u>GRAND TOTAL</u>	51,586	36,210	17,564	105,360

APPENDIX TABLE 7.--Marketings and Percentage by NACF, 1970

Item	Total Production: (M/T)	Marketed: (M/T)	Total Volume Marketed (000 won)	NACF Marketing: (M/T)	Percent by NACF
Sweet Potatoes.....	1,386,000	566,500	5,344,400 (4,500,000)*	476,000	84
Cocoon.....	24,000	23,500	13,701,000 (13,701,000)	23,500	100
Rapeseed.....	30,000	30,000	5,040,000 (2,066,000)	12,302	41
Straw Goods.....	56,000	56,000	1,053,000 (1,053,000)	56,000	100
Corn.....	67,768	31,322	808,108 (258,000)	10,000	32
Soybean.....	231,994	126,762	11,408,580 (900,000)	10,000	8
Beer Barley.....	3,000	3,000	164,520 (55,663)	1,015	34
Castorbean.....	119	100	11,000 (11,000)	100	100
Sesame.....	10,386	4,892	195,680 (320,000)	800	21
Flax.....	2,500	2,500	78,000 (78,000)	2,500	100
Ramie.....	210		37,000 (37,000)	200	100
Total.....	1,811,977	844,776	37,841,288 (22,979,663)	592,417	71

* Volumes in parenthesis are purchases by NACF.

APPENDIX TABLE 8.--Market Share by NACF

Year					
Item	:1966	:1967	:1968	: 1969	: 1970
- - - - - Unit Value: Million Won/Market Share in Percent - - -					
<u>Grain</u>					
Purchases by Urban Households.....	52,389	:58,197	:61,691	: 67,402	: 73,536
Sales of Coop Marketing Center.....	13,375	:16,278	:24,697	: 58,439	: 57,308
Market Share of NACF.....	25.5	: 28.01	: 46.5	: 86.7	: 77.9
	(7.6)	: (6.2)	: (6.6)	: (9.1)	: (12.5)
<u>Fruits</u>					
Purchases by Urban Households.....	2,438	: 3,786	: 4,833	: 5,333	: 6,992
Sales of Coop Marketing Center.....	746	: 915	: 1,208	: 1,716	: 2,050
Market Share of NACF.....	30.6	: 24.2	: 25.0	: 32.2	: 29.3
<u>Vegetables (Includes Potatoes)</u>					
Purchases by Urban Households.....	8,011	:10,862	:10,831	: 14,515	: 17,876
Sales of Coop Marketing Center.....	564	: 702	: 918	: 1,417	: 1,621
Market Share of NACF.....	7.0	: 6.4	: 8.5	: 9.8	: 9.1
<u>Livestock</u>					
Purchases by Urban Households.....	8,123	:12,763	:15,978	: 19,371	: 26,056
Sales of Coop Marketing Center.....	51	: 76	: 112	: 120	: 110
Market Share of NACF.....	0.6	: 0.6	: 0.7	: 0.6	: 0.4
<u>Others</u>					
Purchases by Urban Households.....	1,822	: 2,390	: 2,582	: 4,419	: 6,045
Sales of Coop Marketing Center.....	40	: 65	: 5	: 149	: 1,294
Market Share of NACF.....	2.2	: 2.7	: 0.2	: 3.4	: 21.4
<u>Total</u>					
Purchases by Urban Households.....	72,783	:87,998	:95,915	:111,035	:130,503
Sales of Coop Marketing Center.....	14,776	:18,036	:26,940	: 61,841	: 62,383
Market Share of NACF.....	20.5	: 20.5	: 28.1	: 55.7	: 47.8
	(7.4)	: (6.1)	: (6.6)	: (8.6)	: (10.9)

1. Market shares are for five major cities.
2. Purchases in 1970 is estimation.
3. Purchases are only for non-farm households.
4. Figures in parenthesis indicate market share, excluding government rice.

APPENDIX TABLE 9.--Exports and Imports by NACF and Change 1969 and 1970.

Item	Exports		
	1969	1970	Change
	(Value) (A)	(Value) (B)	(B/A)
-- (thous. US\$) -- (thous. US\$) -- (%) --			
Mushroom, Dried.....	34	102	299.5
Mushroom, Fresh.....	2	35	1,492.6
Medical Herbs.....	21	62	291.4
Rush Products.....	66	103	156.5
Wall Papers.....	52	31	58.9
Scallian Pickle.....	--	71	---
Small Eggplant.....	42	26	61.5
Pork.....	103	36	35.2
Sweater.....	--	50	---
Seed Corn.....	6	9	151.3
Red Bean.....	57	--	---
Others.....	40	41	102.5
Total.....	423	566	133.9
Imports			
Farm Chemicals.....	596	--	---
Milk Cow.....	2,022	1,086	53.7
Forage Seed.....	191	186	97.4
Rice Seed.....	2	20	992.2
Fish Meal.....	277	466	158.2
Bean Meal.....	60	240	402.8
Breeds.....	--	27	---
Soybean.....	--	1,400	---
Red Pepper, Dried....	--	727	---
Rush Weaving mach....	65	--	---

(Continued)

APPENDIX TABLE 1.--(Continued)

Item	Imports		Change (B/A)
	1969 (Value) (A) (thous. US\$)	1970 (Value) (A) (thous. US\$)	
Sesame.....	--	285	---
Rice.....	--	3,212	---
Used Gunnybag.....	--	244	---
Barley.....	7,772	--	---
Others.....	10	78	780.0
<u>Total</u>	10,995	8,039	73.1

APPENDIX TABLE 10.--NACF Purchases and Sales of Specified Inputs 1970 to Oct 31.

Division	Annual Budget		Purchases		Sales		Inventory	
Item	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
(thou. pcs.)								
Mulberry Seedlings...	25,000	135,000	6,356	52,042	6,356	52,142	-----	-----
Silkworm eggs.....		174,000	874	747,009	894	747,009	-----	-----
(thou. boxes)								
Seed Corn.....	500	15,000	420	12,600	395	11,632	25	968
Spring White								
Potato.....	1,000	30,000	111	2,284	111	2,284	-----	-----
Fall White								
Potato.....	300	9,000	--	--	--	--	-----	-----
Fall Vegetable								
Seeds.....	50,000	21,250	20,200	12,352	14,312	8,740	5,888	3,612
Polyethylene.....	2,000	22,000	4,842	49,322	4,842	47,322	-----	-----
(thou. m.)								
Simplicity Silk-								
worm House.....	2,500	112,500	--	--	--	--	-----	-----
Mulberry Cutter.....	--	--	12,000	66,000	12,000	66,000	-----	-----
Rat Poison.....	--	--	5,975	96,802	5,975	96,802	-----	-----
Automatic Alarm.....	--	--	1,000	4,570	1,000	4,570	-----	-----
Thermometer &								
Hygrometer.....	--	--	--	--	--	--	-----	-----
Total.....	1,764,750		1,043,381		1,038,501		4,580	

APPENDIX TABLE 11.--NACF Purchases and Sales of Agricultural Chemicals 1971 to October 31.

	Scheme (NACF)		Purchases		Sales		Inventory	
	Annual Budget		Stock					
	Qty (MT)	Amount (000 won)	Qty (MT)	Amount (000 won)	Qty (MT)	Amount (000 won)	Qty (MT)	Amount (000 won)
<u>For Paddy Rice</u>								
Fungicides	2,910	2,220,000	2,376	1,751,839	1,723	1,262,191	623	489,643
Insecticides	2,313	2,565,000	1,131	1,244,254	1,077	1,145,529	84	98,725
<u>Sub-total</u>	5,223	4,785,000	3,507	2,996,088	2,770	2,407,720	737	588,368
<u>Others</u>								
Herbicides & others	986	974,000	714	936,839	519	659,891	195	276,948
<u>Sub-total</u>	986	974,000	714	936,839	519	659,891	195	276,948
<u>For Horticulture</u>								
Fungicides	584	129,000	161	84,779	136	79,842	25	4,937
Insecticides	537	556,000	278	256,154	295	182,377	53	73,277
<u>Sub-total</u>	1,121	680,000	459	340,935	381	262,237	78	78,714
<u>TOTAL</u>	7,330	6,439,000	7,680	4,373,860	3,610	3,329,830	1,010	944,030
<u>Reprocess Farm</u>								
Chemicals			96	107,150			96	107,150
Transfer Interest:				43,057				43,057
<u>GRAND TOTAL</u>	2,330	6,437,000	4,996	4,429,067	3,670	3,329,430	1,106	1,034,237

APPENDIX TABLE 12.--NACF Purchases and Sales of Agricultural
Implements and Tools 1971 to October 31.

	Annual Budget		Purchase Stock		Sales		Inventory	
	Qty (No.)	Amount : (000 won):	Qty (No.)	Amount : (000 won):	Qty (No.)	Amount : (000 won):	Qty (No.)	Amount : (000 won):
Power Tiller:	5,000:	1,750,000:	2,419:	911,229:	739:	270,297:	1,680:	640,932
			(3,458)		(2,241)		(121)	
Power Wist and Duster	:24,000:	1,008,000:	23,990:	1,200,383:	21,451:	899,506:	2,539:	125,877
Power sprayer:	3,000:	480,000:	1,700:	267,155:	1,689:	267,394:	11:	1,761

Note: () = Total quantity of transfer from last year.

APPENDIX TABLE 13.--NACF Purchases and Sales of Fertilizer
1971 to October 31.

	Annual Budget (A)	<u>Amount Available</u>		Total	Sales(B)	(B/A)	Inventory
		Transfer from last Purchases : year	:this year				
N	361,107	127,396	335,669	463,065	281,487	78	181,578
P	147,114	168,733	123,405	292,138	136,193	93	155,945
K	109,215	98,340	53,377	151,717	78,928	72	72,789
TOTAL	617,436	394,469	512,451	906,920	496,608	80	410,312
	(1,317,309)	(915,247)	(1,132,413)	(2,047,560)	(1,070,303)	(81)	(977,357)
Same term as last year	610,036	439,798	427,585	867,383	480,029	79	387,354
	(1,298,438)	(991,937)	(960,605)	(1,952,542)	(1,039,695)	(80)	(912,847)

Note: () = Real weight per M/T

APPENDIX TABLE 14.--Insurance Program Results 1969 and 1970, NACF

APPENDIX TABLE 14.--Insurance Program Results 1969 and 1970, NACF

	New Policies		Total Valid		Premium	Claims	
	Sold		Policies		Rec'd	Paid	
	Number :	Value : (Mil.Won)	Number :	Value : (Mil.Won)	(Mil.W)	Number:	(Mil.Won)
1969							
Endowment	:199,498:	17,937:	283,117:	42,412:	1,655:	1,300:	137
Juvenile Education:	42,509:	7,132:	74,925:	10,601:	440:	221:	5
TOTAL	:142,007:	25,069:	358,042:	53,013:	2,095:	1,521:	142
1970							
Endowment	: 79,234:	23,752:	312,148:	57,684:	2,381:	3,415:	294
Juvenile Education:	18,032:	4,421:	74,017:	11,614:	637:	280:	15
TOTAL	: 97,266:	28,173:	386,165:	69,298:	3,018:	3,695:	309
1969							
Livestock Loss .. :	48,682:	2,764:	:	:	66:	644:	39
Fire	: 24,043:	106,774:	:	:	273:	33:	21
TOTAL	: 72,725:	109,538:	:	:	399:	677:	60
1970							
Livestock Loss .. :	52,030:	3,187:	:	:	62:	768:	57
Fire	: 23,810:	127,223:	:	:	346:	29:	96
TOTAL	: 75,840:	130,410:	:	:	408:	797:	153

APPENDIX TABLE 15. --NACF Mutual Insurance Fund 1969 and 1970.

	Bonds and Securities:	Due from Banks	Loans to Credit and Business : Sectors	Loans to Policy : Holders:	Fixed Assets:	Others:	Total
	-----Million Won -----						
1969	-	: 2,579	: 1,629	: 1,273	: 606	: 70	: 6,157
1970	775	: 1,945	: 3,905	: 2,029	: 607	: 149	: 9,410

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